



**SERIES 0307  
UNIVERSAL HY-RAIL®  
GUIDE WHEEL EQUIPMENT  
MANUALLY OPERATED**



**OPERATOR'S SERVICE  
AND PARTS MANUAL**

ISSUED 5 - 2000

BULLETIN 942K

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■ **THIS MANUAL CONTAINS VITAL INFORMATION FOR THE SAFE USE AND EFFICIENT OPERATION OF THE VEHICLE EQUIPPED WITH HY-RAIL® GUIDE WHEEL EQUIPMENT. CAREFULLY READ THIS OPERATOR'S MANUAL BEFORE USING THE VEHICLE. FAILURE TO ADHERE TO THE INSTRUCTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

FAIRMONT™ is a brand name and trademark of products manufactured by Harsco Track Technologies, Harsco Corporation.

HY-RAIL® is a registered trademark of Harsco Track Technologies, Harsco Corporation.

When this manual is received, record the rail pilot unit serial numbers in the spaces provided in the General Information and Parts Sections for future reference, in case the serial number tags ever become unreadable. A Manual must remain with the vehicle. Additional or replacement manuals may be obtained by calling or writing Harsco Track Technologies, Harsco Corporation.

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. Harsco Track Technologies, Harsco Corporation reserves the right to make changes at any time without notice.

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# TABLE OF CONTENTS

GENERAL INFORMATION

SECTION

1

OPERATION

SECTION

2

ADJUSTMENTS

SECTION

3

MAINTENANCE

SECTION

4

TROUBLESHOOTING

SECTION

5

APPENDICES

SECTION

6

PARTS

SECTION

7

VEHICLE APPLICATIONS

SECTION

8

SECTION

9

SECTION

10

**SECTION 1 - GENERAL INFORMATION  
TABLE OF CONTENTS**

**Safety Information**

SAFETY INFORMATION ..... 1 - 2

**Identification View**

IDENTIFICATION VIEW ..... 1 - 5

**Description**

DESCRIPTION ..... 1 - 5

**Orientation**

ORIENTATION ..... 1 - 5

**Serial Numbers**

SERIAL NUMBERS ..... 1 - 6

**Specifications**

VEHICLE ..... 1 - 7  
RAIL PILOT UNITS ..... 1 - 7

1

## Safety Information



SAFETY IS A CRITICAL FACTOR IN THE DESIGN OF HARSCO TRACK TECHNOLOGIES EQUIPMENT. THE BEST SAFETY PROGRAM STARTS WITH A SAFETY CONSCIOUS OPERATOR. THE SAFETY INFORMATION HIGHLIGHTED IN THIS BULLETIN DESCRIBES SAFE OPERATING PRACTICES FOR THE BENEFIT OF THE WORKERS WHO WILL USE OUR EQUIPMENT IN THEIR DAILY JOBS.

### HAZARD SERIOUSNESS

Signal Words: **DANGER**, **WARNING** and **CAUTION** are used to identify levels of hazard seriousness.



**DANGER** - Immediate hazards which WILL result in severe bodily injury or death.



**WARNING** - Hazards or unsafe practices which COULD result in severe bodily injury or death.



**CAUTION** - Hazards or unsafe practices which COULD result in minor bodily injury and / or product or property damage.

## Safety Information

1



- **APPLY THE VEHICLE PARKING BRAKE AND STOP THE ENGINE WHEN PERFORMING MAINTENANCE, MAKING ADJUSTMENTS, WORKING UNDER VEHICLE OR GUIDE WHEEL EQUIPMENT OR WHENEVER UNINTENDED MOVEMENT OF THE VEHICLE COULD OCCUR, UNLESS OTHERWISE INSTRUCTED IN THIS MANUAL.**
- **MAKE SURE ALL PERSONS ARE CLEAR OF VEHICLE BEFORE PERFORMING ANY OPERATING FUNCTIONS.**
- **KEEP ALL PARTS OF THE BODY AND LOOSE CLOTHING CLEAR OF ALL MOVING PARTS OF THE VEHICLE OR GUIDE WHEEL EQUIPMENT.**
- **UNDERSTAND EQUIPMENT OPERATION AND BE AWARE OF ALL PINCH POINTS BEFORE OPERATING OR MAKING ADJUSTMENTS TO GUIDE WHEEL EQUIPMENT.**
- **IF A DERAILMENT SHOULD OCCUR WHILE VEHICLE IS OPERATING IN ELECTRIFIED 3RD-RAIL TERRITORY, VEHICLE OR GUIDE WHEEL EQUIPMENT MIGHT BE IN ELECTRICAL CONTACT WITH ELECTRIFIED RAIL. DO NOT ATTEMPT TO EXIT FROM VEHICLE UNTIL ELECTRICAL POWER TO 3RD-RAIL HAS BEEN TURNED OFF.**
- **DO NOT EXCEED 45 MPH (72 km/h) WHEN OPERATING VEHICLE ON TRACK. RAILROAD RULES GOVERNING SPEEDS SHOULD BE OBSERVED AT ALL TIMES. REDUCE SPEED WHEN PROPELLING VEHICLE THROUGH SWITCHES, CROSSINGS, BRANCH LINES AND ANY SPECIAL TRACK WORKS. OPERATING VEHICLE AT UNSAFE SPEEDS COULD RESULT IN DERAILMENT OF VEHICLE.**
- **CHECK AND CORRECT GUIDE WHEEL EQUIPMENT ALIGNMENT PROMPTLY IF MISALIGNMENT IS INDICATED.**

## Safety Information

1



- **AT MAXIMUM LOADED GROSS VEHICLE WEIGHT ON TRACK (including driver, passengers, equipment, tools, payload, etc.) DO NOT EXCEED ANY OF THE FOLLOWING:**
  - **VEHICLE'S G.V.W.R. (Gross Vehicle Weight Rating).**
  - **VEHICLE'S FRONT G.A.W.R. (Gross Axle Weight Rating) OR THE SUM OF THE FRONT RAIL PILOT UNIT RATED LOAD CAPACITY PLUS (+) VEHICLE'S FRONT TIRE/WHEEL RATED LOAD CAPACITY, WHICHEVER IS LOWER.**
  - **VEHICLE'S REAR G.A.W.R. (Gross Axle Weight Rating) OR THE SUM OF REAR RAIL PILOT UNIT GUIDE WHEEL RATED LOAD CAPACITY PLUS (+) VEHICLE'S REAR TIRE/WHEEL RATED LOAD CAPACITY, WHICHEVER IS LOWER.**
  - **COMPONENTS RATED LOAD CAPACITY:**
    - A. **TIRE MANUFACTURER'S RATED LOAD CAPACITY**
    - B. **VEHICLE'S WHEEL RATED LOAD CAPACITY**
    - C. **RAIL PILOT UNIT RATED LOAD CAPACITY (700 lbs (318 kg) maximum per guide wheel)**

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.**



- **OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.**
- **KNOW THE POSITIONS AND FUNCTIONS OF ALL CONTROLS BEFORE ATTEMPTING TO OPERATE VEHICLE.**
- **THIS GUIDE WHEEL EQUIPMENT IS DESIGNED WITH YOUR SAFETY IN MIND. NEVER DISCONNECT AND/OR ATTEMPT TO OVERRIDE SAFETY FEATURES.**
- **SUPPLIED LIFT HANDLES ARE DESIGNED FOR OPERATING ONLY PROPERLY MAINTAINED GUIDE WHEEL EQUIPMENT. DO NOT USE THE LIFT HANDLE FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED. IF LIFT HANDLE IS DAMAGED (BENT, BROKEN, ETC.), IT MUST NOT BE REPAIRED (STRAIGHTENED, WELDED, ETC.), IT MUST BE REPLACED.**

**FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

*Note: To help ensure safe operation of this equipment, keep all safety decals clean and legible. Replace safety decals when necessary with new decals, listed in the Parts Section of this manual.*

## Identification View

FIGURE 1-1  
SERIES 0307 HY-RAIL® EQUIPPED VEHICLE

1



## Description

The FAIRMONT™ Series 0307 HY-RAIL® guide wheel equipment can be applied to various standard utility vehicles, cab chassis and pickup trucks. The vehicles G.V.W.R. (gross vehicle weight rating) and/or G.A.W.R. (gross axle weight rating) must comply with the specified limits listed in the Harsco Track Technologies Vehicle Specifications Manual.

The HY-RAIL® guide wheel equipment has front and rear rail pilot units which are manually operated and are mounted onto the vehicle frame. All weight of the rail pilot units is carried on the vehicle frame, above the springs, when the units are in the "highway" position. Load bearing guide wheel assemblies guide the vehicle during on track operation.

The HY-RAIL® equipped vehicle uses the vehicle propulsion and braking system for propelling and braking on track.

## Vehicle Orientation

Front - rear and left - right are determined from the vehicle operator's seat.



1

### Serial Numbers

When this bulletin is received, complete the following record from the serial number tag on both the front and rear rail pilot units. Always provide these factory serial numbers when calling or writing about the units. The serial number tags are located on the frame mounting assembly on both units.

FIGURE 1-2  
FRONT RAIL PILOT UNIT SERIAL NUMBER TAG

<b>HTT</b> Harsco Track Technologies a harsco company™		PATENT NUMBER <input type="text"/>
WHEN ORDERING PARTS FOR THIS ACCESSORY ALWAYS GIVE THE FOLLOWING INFORMATION		
<b>Fairmont</b> ™ HY-RAIL® GUIDE WHEEL EQUIPMENT		
SERIAL NUMBER <input type="text"/>	SYMBOL <input type="text"/>	MODEL NUMBER <input type="text"/>
FAIRMONT, MN. 56031 U.S.A.		
52400K		

FIGURE 1-3  
REAR RAIL PILOT UNIT SERIAL NUMBER TAG

<b>HTT</b> Harsco Track Technologies a harsco company™		PATENT NUMBER <input type="text"/>
WHEN ORDERING PARTS FOR THIS ACCESSORY ALWAYS GIVE THE FOLLOWING INFORMATION		
<b>Fairmont</b> ™ HY-RAIL® GUIDE WHEEL EQUIPMENT		
SERIAL NUMBER <input type="text"/>	SYMBOL <input type="text"/>	MODEL NUMBER <input type="text"/>
FAIRMONT, MN. 56031 U.S.A.		
52400K		

**Specifications**



**VEHICLE**

See the Harsco Track Technologies HY-RAIL® Vehicle Specifications Manual for vehicle specifications. For information regarding special applications not listed in the Harsco Track Technologies Vehicle Specifications Manual, contact Harsco Track Technologies, Harsco Corporation, Fairmont, Minnesota.

**RAIL PILOT UNITS**

Track Gauge . . . . . 56-1/2 in (1435 mm)

**Guide Wheels**

**Steel Wheel - 072894K**

Flange Diameter . . . . . 10-3/4 in (274 mm)  
Tread Diameter . . . . . 8-1/2 in (216 mm)

**Steel Wheel With Rubber Tread - 078024K**

Flange Diameter . . . . . 12-1/8 in (308 mm)  
Tread Diameter . . . . . 10 in (254 mm)

Weight - Front Unit . . . . . 288 lbs (131 kg)  
- Rear Unit . . . . . 288 lbs (131 kg)

Recommend Load Per Guide Wheel - All Tread Types . . . . . 350 - 400 lbs (159 - 182 kg)  
(with vehicle at curb weight)

Maximum Load Per Guide Wheel - All Tread Types . . . . . 700 lbs (318 kg)



**SECTION 2 - OPERATION  
TABLE OF CONTENTS**

**Speedometer**

SPEEDOMETER ..... 2 - 3

**Preparing For Operation**

VEHICLE ..... 2 - 3  
RAIL PILOT UNITS ..... 2 - 4

**Misalignment Indicators**

MISALIGNMENT INDICATORS..... 2 - 4

**Placing Vehicle On Track**

PLACING VEHICLE ON TRACK ..... 2 - 5  
STEERING LOCK ..... 2 - 6  
RAIL SWEEPS..... 2 - 7

**Guide Wheel Load On Track**

GUIDE WHEEL LOAD ON TRACK ..... 2 - 8

**Propelling On Track**

PROPELLING ON TRACK..... 2 - 10

**Braking On Track**

BRAKING ON TRACK ..... 2 - 11

**Removing Vehicle From Track**

REMOVING VEHICLE FROM TRACK..... 2 - 12

**Highway Operation**

HIGHWAY OPERATION ..... 2 - 13

**HY-RAIL® Hitch**

HY-RAIL® HITCH..... 2 - 14

**Towing**

TOWING TRAILER / EQUIPMENT WITH THE VEHICLE ON TRACK . . . . . 2 - 14  
TOWING TRAILER / EQUIPMENT WITH THE VEHICLE ON ROAD . . . . . 2 - 17  
TOWING THE DISABLED VEHICLE ON TRACK . . . . . 2 - 20  
TOWING THE DISABLED VEHICLE ON ROAD . . . . . 2 - 23

## Speedometer



- **WHEN WHEEL/TIRE MODIFICATIONS ARE APPLIED, CHECK AND CHANGE SPEEDOMETER DRIVE RATIO IF NECESSARY. THE SPEEDOMETER DRIVE RATIO WILL INFLUENCE THE OPERATION OF THE VEHICLE'S ANTI-LOCK BRAKE SYSTEMS, ELECTRONICALLY CONTROLLED TRANSMISSION SHIFT TIMING AND SPEEDOMETER DISPLAY OF THE TRUE VEHICLE SPEED. FAILURE TO MAINTAIN CORRECT SPEEDOMETER DRIVE RATIO COULD RESULT IN SEVERE BODILY INJURY.**

2

Some vehicles require special larger diameter wheels and/or wheel spacers to properly space the vehicle tires for on track operation. Use of these wheel modifications may effect the speedometer drive ratio calibration. The speedometer drive ratio will influence the operation of the vehicle's anti-lock brake systems, electronically controlled transmission shift timing and speedometer display of the true vehicle speed. The vehicle speedometer must be re-calibrated when wheel modifications are applied to the vehicle. See the vehicle manufacturer or dealer for speedometer calibration information.

## Preparing for Operation

### VEHICLE

Be sure the vehicle is in operating condition by checking the following:

- a. Engine oil level.
- b. Radiator fluid level.
- c. Fuel tank level.
- d. Brakes work properly.
- e. Parking brake works properly.
- f. Head, brake and signal lights work properly.
- g. Tires properly inflated to the manufacturer's recommended maximum pressure printed on the sidewall of the tires, or the wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower.
- h. Vehicle wheels: Lug nuts / bolts tightened to the proper torque, inspect vehicle wheels, lug bolts and lug nuts for wear or damage. For vehicle wheel, lug bolt and lug nut inspection information refer to the USER'S GUIDE TO WHEELS AND RIMS produced by THE MAINTENANCE COUNCIL. To obtain this guide, contact:

THE MAINTENANCE COUNCIL  
AMERICAN TRUCKING ASSOCIATION  
2200 MILL ROAD  
ALEXANDRIA, VA. 22314  
Phone: (703) 838-1763

- i. Any other normal maintenance requirements.

## Preparing for Operation

### GUIDE WHEEL EQUIPMENT

Be sure the front and rear rail pilot units are in operating condition by checking the following:

2

- a. Overall for damaged or worn parts.
- b. Proper alignment and guide wheel loads.
- c. Proper lubrication at recommended operating hourly intervals.

### Misalignment Indicators



■ **BEFORE OPERATING A VEHICLE WITH NEWLY INSTALLED GUIDE WHEEL EQUIPMENT ON TRACK, VERIFY THAT THE GUIDE WHEEL EQUIPMENT ALIGNMENT PROCEDURE HAS BEEN COMPLETED. CHECK AND CORRECT ALIGNMENT PROMPTLY IF MISALIGNMENT IS INDICATED. MISALIGNMENT OF GUIDE WHEEL EQUIPMENT COULD RESULT IN DERAILMENT OF THE VEHICLE AND SEVERE BODILY INJURY.**

The following conditions may indicate that minor adjustments to the guide wheel equipment alignment are necessary. If any of these conditions occur during operation, perform the Track Test, see Adjustment Section - Vehicle Track Test and/or complete the Alignment Procedure, see Adjustment Section - Guide Wheel Equipment Alignment Procedure.

1. Excessive flange or tread wear on any of the rail guide wheels.
2. The vehicle pulls noticeably to the left or right during track operation.
3. Vibration felt throughout the vehicle at various speeds during track operation.

## Placing Vehicle on Track



- PLACE VEHICLE AUTOMATIC TRANSMISSION IN "PARK" OR MANUAL TRANSMISSION IN "NEUTRAL". APPLY THE PARKING BRAKE.
- UNDERSTAND EQUIPMENT OPERATION AND BE AWARE OF ALL PINCH POINTS BEFORE OPERATING OR MAKING ADJUSTMENTS TO GUIDE WHEEL EQUIPMENT.
- BEFORE PROPELLING THE VEHICLE ON THE TRACK, MAKE SURE:
  - ALL FOUR GUIDE WHEELS ARE LOWERED, LOCKED IN THE RAIL POSITION, AND SECURED WITH THE LOCK PIN.
  - ALL GUIDE WHEEL FLANGES ARE ENGAGED ON THE INSIDE OF THE RAIL.
  - THE FRONT WHEELS ARE POINTED STRAIGHT AHEAD AND THE STEERING WHEEL LOCK IS ENGAGED.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN DERAILMENT OF THE VEHICLE AND SEVERE BODILY INJURY.



- THE SUPPLIED LIFT HANDLES ARE DESIGNED FOR OPERATING ONLY PROPERLY MAINTAINED GUIDE WHEEL EQUIPMENT. DO NOT USE THE LIFT HANDLE FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED. IF THE LIFT HANDLE IS DAMAGED (BENT, BROKEN, ETC.), IT MUST NOT BE REPAIRED (STRAIGHTENED, WELDED, ETC.), IT MUST BE REPLACED.
- OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.
- IF THE VEHICLE IS EQUIPPED WITH A STROBE LIGHT (BEACON) AND RAILROAD RULES AND REGULATIONS REQUIRE ITS USE, THE STROBE LIGHT (BEACON) MUST BE ILLUMINATED WHEN PLACING THE VEHICLE ON TRACK AND WHEN OPERATING THE VEHICLE ON TRACK.

FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.



## Placing Vehicle on Track

### LOWERING GUIDE WHEELS

2

1. Ensure that highway vehicles are not approaching the grade crossing while placing the vehicle on track. To ensure safety, flag the crossing per railroad rules and regulations.
2. At a road crossing, drive the vehicle about 25 feet (7.6 M) past the track. Back the vehicle onto the track so that the rear vehicle wheels are centered on rails. It may be necessary to move the vehicle back and forth several times to get the wheels centered on the rail properly.
3. Place automatic transmission in "PARK" or manual transmission in "NEUTRAL". Apply the parking brake.
4. Lower and lock the rear guide wheels first. The rear guide wheels should be lowered first so the vehicle front tires can be maneuvered to align the front guide wheels with the rails.
5. See Figure 2-1. Remove lock pin (1). Button in "T" end of the pin must be pressed in to remove the lock pin. Place the lock pin in a position so that it does not become entangled in the mechanical lock mechanism.
6. Insert the end of hand lever (5) with the short single bend (A) into socket (2). Maintain a firm grip on the hand lever to prevent the guide wheels from dropping suddenly when the mechanical lock is released.
7. Push the locking pawl handle (4) to release the mechanical lock. Use the hand lever (5) to lower the guide wheel to the rail.
8. Remove hand lever (5) from socket (2) and insert the opposite end with long single bend (B) into socket (3). Push down on the hand lever, forcing the guide wheel down until the locking mechanism fully locks, securing the guide wheel in the "rail" position.
9. Insert lock pin (1) to secure the locking pawl (4). Button in "T" end of the pin must be pressed in to insert the lock pin. Remove hand lever (5) from socket (3).
10. Repeat Steps 5 through 9 to lower and lock the other rear guide wheel in the "rail" position.
11. After the rear guide wheels are locked in the "rail" position, move the vehicle so that the vehicle front wheels are centered on the rail. Follow the same procedure to lock the front guide wheels in the "rail" position.

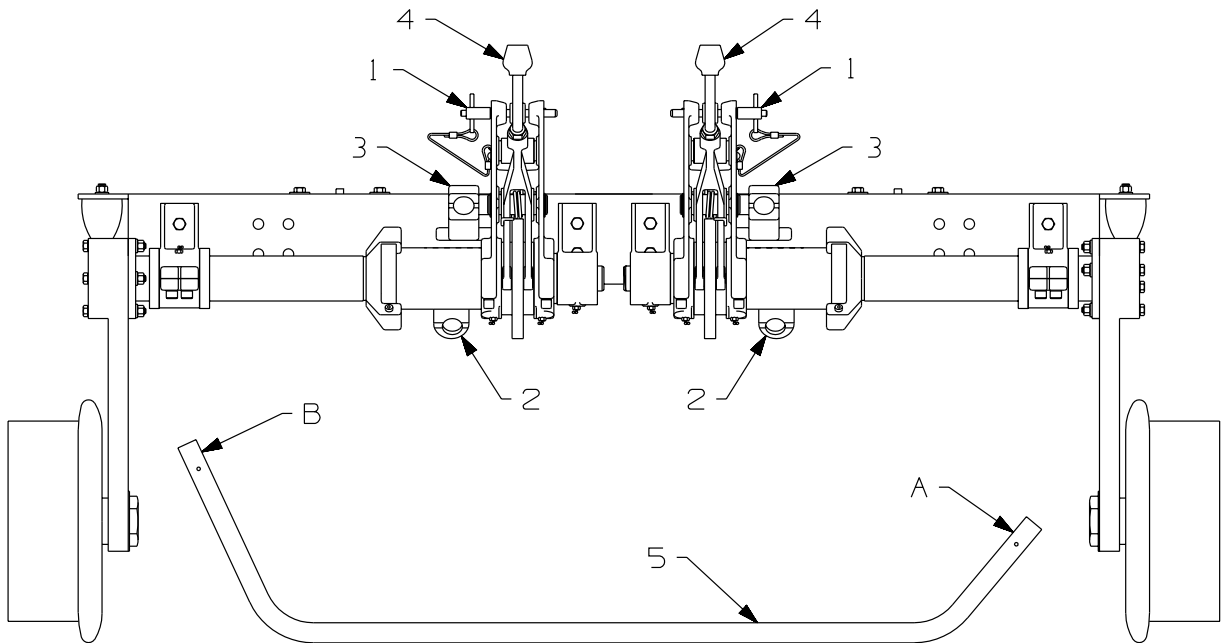
### STEERING LOCK

12. See Figures 2-2 and 2-3. Turn the steering wheel to set the vehicle front wheels straight ahead. Secure the steering wheel in this position with the steering lock, located on the steering column. Steering locks may vary from vehicle to vehicle but will operate similarly.

*Note: Do not place any pressure on the steering wheel after the steering lock is engaged.*

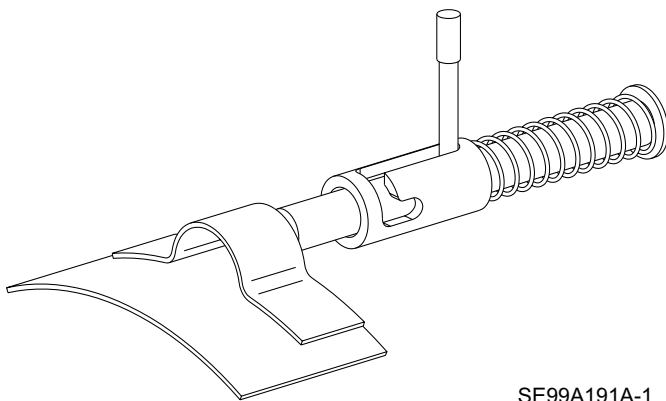
### Placing Vehicle on Track

FIGURE 2-1  
PLACING VEHICLE ON TRACK



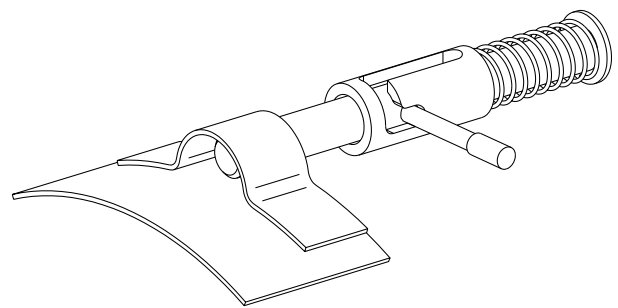
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FIGURE 2-2  
STEERING LOCK IN UNLOCKED POSITION



SE99A191A-1

FIGURE 2-3  
STEERING LOCK IN LOCKED POSITION



SE99A192A-1

### RAIL SWEEPS

13. The rail pilot units may be equipped with rail sweeps. The rail sweeps are positioned ahead of the front guide wheels and behind the rear guide wheels. The rail sweeps clear the rail of debris, lengthening the service life of the guide wheels.

The rail sweeps are attached to the wheel arm and will lower when the guide wheels are lowered to the "rail" position and will raise when the guide wheels are raised to the "highway" position.

## Guide Wheel Load on Track



2

- **IMPROPER LOADING OF THE HY-RAIL® EQUIPPED VEHICLE CAN CAUSE DERAILMENT OF THE VEHICLE.**
- **APPLY VEHICLE PARKING BRAKE AND STOP VEHICLE ENGINE BEFORE CHECKING GUIDE WHEEL LOAD.**
- **NEVER OPERATE THE VEHICLE ON THE "RAIL" WITH ONE OR MORE OF THE OVERLOAD SET SCREWS BOTTOMED OUT.**
- **ALWAYS CHECK THE GUIDE WHEEL LOAD BEFORE OPERATING THE VEHICLE ON TRACK. MINIMUM LOAD ON ANY GUIDE WHEEL MUST BE AT LEAST 350 LBS (159 kg). MAXIMUM LOAD ON ANY GUIDE WHEEL MUST NOT EXCEED 700 LBS (318 kg). NEVER OPERATE THE VEHICLE ON TRACK IF THE LOAD ON ANY GUIDE WHEEL IS NOT WITHIN THESE RANGES.**
- **DO NOT USE ANY OTHER JACK THEN THE HARSCO TRACK TECHNOLOGIES WHEEL WEIGHING JACK NO. 073527 TO CHECK THE GUIDE WHEEL LOAD. USE OF ANY OTHER JACK WILL RESULT IN INCORRECT GUIDE WHEEL LOAD INFORMATION.**
- **MISUSE OF THE WHEEL WEIGHING JACK MAY CAUSE GAUGE TO EXPLODE. READ ANSI B40.1 AND APPARATUS INSTALLATION / OPERATING INSTRUCTIONS BEFORE USE.**
- **DO NOT USE THE WHEEL WEIGHING JACK TO LIFT THE VEHICLE. EXCESSIVE WEIGHT MAY CAUSE THE JACK TO FAIL.**

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN DERAILMENT OF VEHICLE AND/OR SEVERE BODILY INJURY.**

1. See Figure 2-4. Lower and lock all guide wheels in the rail position. When the vehicle is at curb weight (with permanent attachments such as: spare tire, tool box less tools, utility box, crane, aerial lift boom, etc; and without passengers, baggage, load, etc.) there should be 3/8 inch (9.5 mm) clearance between the overload set screw and the stop on the casting. Check the overload set screws on each guide wheel whenever the vehicle is loaded or additional load is added to the existing vehicle load on "rail". If any of the overload set screws are bottomed out against the stop on the casting, the load must be redistributed or some of the load removed. Never operate the vehicle on "rail" with one or more of the overload set screws bottomed out.
2. Use the wheel weighing jack (Harsco Track Technologies part no. 073527) to check the guide wheel load if any of the overload set screws are bottomed out against the stop on the casting and/or to determine the load on the guide wheel. Do not use any other jack then the Harsco Track Technologies wheel weighing jack no. 073527 to check the guide wheel load. Use of any other jack will result in incorrect guide wheel load information.

### Guide Wheel Load on Track

3. See Figure 2-5. Place the wheel weighing jack (073527) under the guide wheel arm directly below the wheel spindle. Jack the guide wheel up until the guide wheel just clears the top of the rail. Note the gauge reading. The gauge reading indicates the pounds of load on the guide wheel.

*Note: An easy way to tell when the guide wheel just clears the top of rail is to jack the wheel up approximately 1/4" (6.4 mm) above the top of the rail. Place a piece of paper between the rail and the guide wheel. Lower the guide wheel onto the paper. Slowly jack the guide wheel up while applying a steady pulling force on the paper until the paper can be pulled out. Note the gauge reading when the paper can be removed.*

4. With the vehicle at curb weight, the recommended guide wheel load is 350 - 400 lbs (159 - 182 kg) @ specified guide wheel height. With the vehicle loaded, the maximum guide wheel load is 700 lbs (318 kg).
5. If the measured load is less than the minimum guide wheel load of 350 lbs (159 kg) or exceeds the maximum guide wheel load of 700 lbs (318 kg) on any guide wheel, the guide wheel unit must be adjusted or the vehicle load must be redistributed or some of the load removed. Never operate the vehicle on track if the load on any guide wheel is not within these ranges. See the Adjustments Section - Guide Wheel Equipment Alignment Procedure.

FIGURE 2-4  
GUIDE WHEEL OVERLOAD SET SCREWS

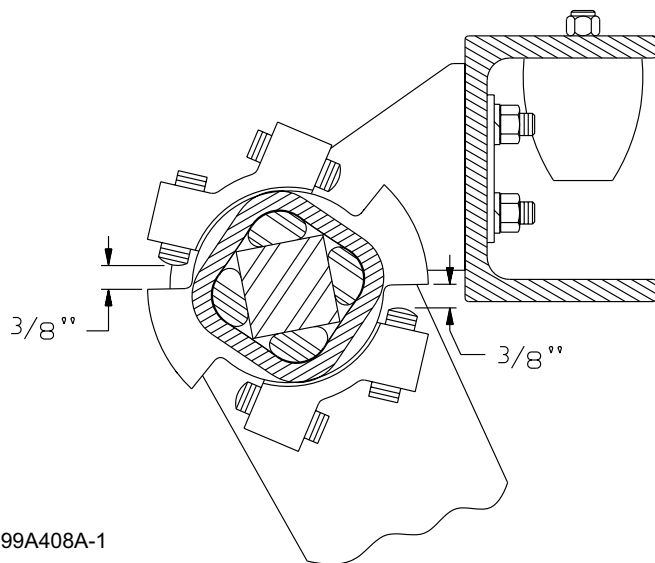
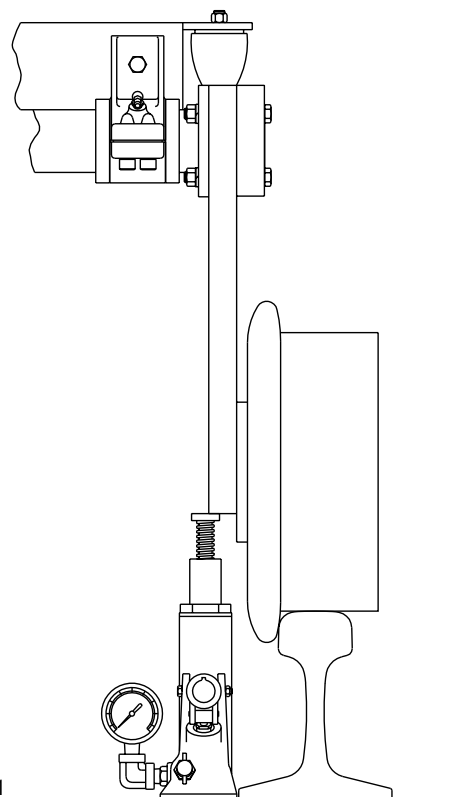


FIGURE 2-5  
WHEEL WEIGHING JACK



## Propelling on Track



2

- **IMPROPER LOADING OF THE HY-RAIL® EQUIPPED VEHICLE CAN CAUSE DERAILMENT OF THE VEHICLE.**

- **ALWAYS CHECK THE GUIDE WHEEL LOAD BEFORE OPERATING THE VEHICLE ON TRACK. MINIMUM LOAD ON ANY GUIDE WHEEL MUST BE AT LEAST 350 LBS (159 kg). MAXIMUM LOAD ON ANY GUIDE WHEEL MUST NOT EXCEED 700 LBS (318 kg). NEVER OPERATE THE VEHICLE ON TRACK IF THE LOAD ON ANY GUIDE WHEEL IS NOT WITHIN THESE RANGES.**

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN DERAILMENT OF THE VEHICLE AND/OR SEVERE BODILY INJURY.**



- **BEFORE OR WHEN PROPELLING ON TRACK:**
  - **OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.**
  - **THE OPERATOR MUST LOOK ALL DIRECTIONS FOR PERSONS OR OBJECTS ON OR ADJACENT TO THE TRACK.**
  - **DO NOT ACCELERATE SUDDENLY. TRACTION IS REDUCED ON TRACK, SPINNING VEHICLE TIRES COULD DAMAGE THEM.**
  - **DO NOT EXCEED 45 MPH (72 km/h) WHEN OPERATING THE VEHICLE ON TRACK. RAILROAD RULES GOVERNING SPEEDS SHOULD BE OBSERVED AT ALL TIMES. REDUCE SPEED WHEN PROPELLING THE VEHICLE THROUGH SWITCHES, CROSSINGS, BRANCH LINES AND ANY SPECIAL TRACK WORKS. OPERATING THE VEHICLE AT UNSAFE SPEEDS COULD RESULT IN DERAILMENT OF THE VEHICLE.**
  - **STEERING LOCK MUST BE ENGAGED AT ALL TIMES WHEN OPERATING THE VEHICLE ON TRACK.**

- **IF THE VEHICLE IS EQUIPPED WITH A STROBE LIGHT (BEACON) AND RAILROAD RULES AND REGULATIONS REQUIRE ITS USE, THE STROBE LIGHT (BEACON) MUST BE ILLUMINATED WHEN OPERATING THE VEHICLE ON TRACK.**

**FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

Vehicles equipped with Series 0307 HY-RAIL® Guide Wheel Equipment use the vehicle propulsion system. Do not accelerate suddenly. Traction is reduced on the track, and spinning the vehicle tires could damage them.

## Braking on Track



- **PERSONS WHO OPERATE THE VEHICLE MUST BE FAMILIAR WITH TRACK AND WEATHER CONDITIONS THAT MAY AFFECT STOPPING DISTANCE. BE ALERT TO THESE CONDITIONS AND ALLOW ADEQUATE STOPPING DISTANCE.**

- **BE PREPARED TO BRAKE AT ALL HIGHWAY CROSSINGS. THIS VEHICLE WILL NOT OPERATE TRACK SIGNAL CIRCUITS, AND ONCOMING VEHICLES OR PEDESTRIANS MAY NOT YIELD THE RIGHT OF WAY.**

**FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

Vehicles equipped with Series 0307 HY-RAIL® Guide Wheel Equipment use the vehicle brake system for braking on track. Stopping distance may be greater on track than on typical road surfaces. Apply the brakes gradually to avoid sliding the tires.

## Removing Vehicle from Track

2



- PLACE VEHICLE AUTOMATIC TRANSMISSION IN "PARK" OR MANUAL TRANSMISSION IN "NEUTRAL". APPLY THE PARKING BRAKE.
- UNDERSTAND EQUIPMENT OPERATION AND BE AWARE OF ALL PINCH POINTS BEFORE OPERATING OR MAKING ADJUSTMENTS TO GUIDE WHEEL EQUIPMENT.
- BEFORE PROPELLING THE VEHICLE OFF TRACK, MAKE SURE:
  - ALL FOUR GUIDE WHEELS ARE RAISED, LOCKED IN THE HIGHWAY POSITION, AND SECURED WITH THE LOCK PIN.
  - THE STEERING WHEEL LOCK IS DISENGAGED.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.



- THE SUPPLIED LIFT HANDLES ARE DESIGNED FOR OPERATING ONLY PROPERLY MAINTAINED GUIDE WHEEL EQUIPMENT. DO NOT USE THE LIFT HANDLE FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED. IF THE LIFT HANDLE IS DAMAGED (BENT, BROKEN, ETC.), IT MUST NOT BE REPAIRED (STRAIGHTENED, WELDED, ETC.), IT MUST BE REPLACED.
- OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.
- IF THE VEHICLE IS EQUIPPED WITH A STROBE LIGHT (BEACON) AND RAILROAD RULES AND REGULATIONS REQUIRE ITS USE, THE STROBE LIGHT (BEACON) MUST BE ILLUMINATED WHEN OPERATING THE VEHICLE ON TRACK AND WHEN REMOVING VEHICLE FROM TRACK.

FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.

## RAISING GUIDE WHEELS

1. Ensure that highway vehicles are not approaching the grade crossing while removing vehicle from track. To ensure safety, flag the crossing per railroad rules and regulations.
2. Approach a road crossing and stop with the vehicle front wheels on the crossing.
3. Place automatic transmission in "PARK" or manual transmission in "NEUTRAL". Apply the parking brake.
4. See Figures 2-2 and 2-3. Disengage the steering lock. Steering locks may vary from vehicle to vehicle but will operate similarly.
5. Raise the front guide wheels first. Then the rear guide wheels.

## Removing Vehicle from Track

### RAISING GUIDE WHEELS

6. See Figure 2-1. Remove lock pin (1). Button in "T" end of the pin must be pressed in to remove the pin. Place the lock pin in a location so that it does not become entangled in the mechanical lock mechanism.
7. Insert the end of the hand lever (5) with long single bend (B) into socket (3). Push down to remove pressure from the locking pawl handle.
8. Push the locking pawl handle (4) to release the mechanical lock. Raise hand lever (5) to raise the guide wheel until it rests on the rail.
9. Remove the hand lever (5) from socket (3) and insert opposite end with short single bend (A) into socket (2). Push down on the hand lever, forcing the guide wheel up until the locking mechanism fully locks, securing the guide wheel in the "highway" position.
10. Insert lock pin (1) to secure the locking pawl (4). Button in "T" end of the pin must be pressed in to insert the lock pin. Remove hand lever (5) from socket (2).
11. Repeat Steps 6 through 10 to raise the other front guide wheel to the "highway" position.
12. After the front guide wheels are locked in the "highway" position, follow the same procedure to raise and lock the rear guide wheels in the "highway" position.

### Highway Operation



- **THIS MULTIPURPOSE VEHICLE HAS SPECIAL DESIGNS AND EQUIPMENT FEATURES FOR OFF-ROAD USE. IT HANDLES DIFFERENTLY FROM AN ORDINARY PASSENGER CAR IN DRIVING CONDITIONS THAT MAY OCCUR ON STREETS, HIGHWAYS AND OFF-ROAD. WEIGHT AND LOCATION OF AVAILABLE PAYLOAD MAY ALSO AFFECT THE HANDLING OF THIS VEHICLE. DRIVE WITH CARE AND WEAR SAFETY BELTS AT ALL TIMES. READ VEHICLE OWNER'S MANUAL FOR ADDITIONAL PRECAUTIONS.**



## HY-RAIL® Hitch



2

- **WHEN USING THE HY-RAIL® HITCH:**
  - **USE ONLY A RIGID TYPE TOW BAR WITH A.R.E.A. SAFETY LOCKING COUPLERS TO TOW WITH THE VEHICLE OR PUSH THE VEHICLE AND/OR OTHER VEHICLES ON THE TRACK.**
  - **DO NOT EXCEED 20 MPH (32 km/h) WHEN TOWING OR PUSHING OTHER VEHICLES ON TRACK.**
  - **DO NOT USE THE HY-RAIL® HITCH TO TOW THE VEHICLE OR OTHER VEHICLES ON THE HIGHWAY.**

**FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

The front and/or rear rail pilot units may be equipped with the 131387 HY-RAIL® Hitch Sales Group. The hitch group can be used to tow or push the vehicle and/or other vehicles on the track. The hitch is not for highway use.

## Towing Trailer / Equipment With The Vehicle On Track



- **THE VEHICLE USED FOR TOWING MUST BE RATED BY VEHICLE MANUFACTURER FOR WEIGHT OF TRAILER / EQUIPMENT TO BE TOWED. DO NOT EXCEED VEHICLE MANUFACTURER'S MAXIMUM RATED TOWING CAPACITY.**
- **THE TOWING VEHICLE MUST WEIGH AS MUCH OR MORE THAN TRAILER / EQUIPMENT BEING TOWED.**
- **THE VEHICLE USED FOR TOWING MUST HAVE AN ADEQUATE BRAKE SYSTEM TO SAFELY DECELERATE AND STOP THE TOWING VEHICLE AND THE TRAILER / EQUIPMENT BEING TOWED.**
- **TOWING TRAILER / EQUIPMENT LENGTHENS STOPPING DISTANCES. ALLOW ADEQUATE DISTANCE FOR STOPPING. ANTICIPATE STOPS SO YOU CAN BRAKE GRADUALLY.**
- **STOPPING DISTANCE IS GREATER ON TRACK THAN ON TYPICAL ROAD SURFACES. APPLY BRAKES GRADUALLY TO AVOID SLIDING VEHICLE TIRES AND GUIDE WHEELS.**
- **TOW TRAILER / EQUIPMENT AT A REASONABLE SPEED, 20 MPH (32 km/h) MAXIMUM, TAKING INTO ACCOUNT TRACK CONDITIONS, TRACK GRADE, WEATHER, VISIBILITY AND STOPPING DISTANCE TO ASSURE SAFE OPERATION. RAILROAD RULES GOVERNING SPEEDS AND RIGHT OF WAY SHOULD BE OBSERVED AT ALL TIMES.**

## Towing Trailer / Equipment With The Vehicle On Track



- THE TRAILER / EQUIPMENT BEING TOWED MUST BE IN A SAFE, USABLE CONDITION TO BE TOWED.

- MAKE SURE THAT THE VEHICLE HAS:

- THE FRONT AND REAR GUIDE WHEELS LOWERED AND LOCKED IN THE RAIL POSITION.
- ALL FRONT AND REAR GUIDE WHEEL FLANGES ENGAGED ON THE INSIDE OF THE RAILS.
- THE STEERING WHEEL LOCK ENGAGED WITH THE FRONT WHEELS STRAIGHT AHEAD.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.



- CAREFULLY AND THOROUGHLY PREPARE THE VEHICLE FOR TOWING, MAKING SURE TO USE THE RIGHT TOWING EQUIPMENT AND TO ATTACH IT PROPERLY.

- THE TOWING EQUIPMENT (HITCHES, TOW BARS, ETC.), OTHER THAN THE HARSCO TRACK TECHNOLOGIES HY-RAIL® HITCH SALES GROUP, MUST BE ATTACHED TO THE VEHICLE FRAME. DO NOT MOUNT OR ATTACH THE TOWING EQUIPMENT TO VEHICLE RAIL PILOT UNITS.

- THE TOWING EQUIPMENT (HITCHES, TOW BARS, ETC.) MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN THE WEIGHT OF TRAILER / EQUIPMENT BEING TOWED.

- USE A RIGID TYPE TOW BAR WITH SAFETY LOCKING COUPLERS. DO NOT USE CHAIN, WIRE ROPE ETC.

- OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.

- DO NOT ACCELERATE SUDDENLY. TRACTION IS REDUCED ON TRACK, SPINNING THE VEHICLE TIRES COULD DAMAGE THEM.

FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.

## Towing Trailer / Equipment With The Vehicle On Track

1. See your vehicle operator's manual for towing information.
2. Use the vehicle manufacturer's recommendations to determine the maximum weight the towing vehicle can tow. Do not exceed the vehicle manufacturer's maximum rated towing capacity.
3. The towing vehicle must have an adequate brake system to safely decelerate and stop the towing vehicle and the trailer / equipment being towed. The towing vehicle must weigh as much or more than the trailer / equipment being towed.
4. Make sure that the vehicle has:
  - a. The front and rear guide wheels lowered and locked in the rail position.
  - b. All front and rear guide wheel flanges engaged on the inside of the rails.
  - c. The front wheels set straight ahead and the steering wheel lock is engaged.
5. Make sure the towing vehicle and the trailer / equipment are in good working condition (tires, brakes, lights, etc.) and that current maintenance has been performed on the vehicle and trailer / equipment.
6. The towing equipment (hitches, tow bars, etc.) on the towing vehicle must have a rating equal to or greater than the weight of the trailer / equipment being towed.
7. The towing equipment (hitches, tow bars, etc.) other than the Harsco Track Technologies HY-RAIL® Hitch Sales Group part no. 131387, must be attached to the towing vehicle frame. Do not mount or attach the towing equipment to the rail pilot units.
8. Observe and follow all railroad safety rules and regulations.
9. Do not accelerate suddenly. Traction is reduced on track. Spinning the vehicle tires could damage them.
10. Stopping distance is greater on track than on typical road surfaces. Apply the vehicle brakes gradually to avoid sliding the vehicle tires and the guide wheels. Towing trailer / equipment lengthens stopping distances. Allow adequate distance for stopping. Anticipate stops so that you can brake gradually.
11. Tow the trailer / equipment on the track at a reasonable speed, 20 MPH (32 km/h) maximum, taking into account track conditions, track grade, weather, visibility and stopping distance to assure safe operation. Railroad rules and regulations governing speed limits and right of way should be observed at all times.
12. Always chock the trailer wheels before unhooking the trailer from the towing vehicle.

## Towing Trailer / Equipment With The Vehicle On Road



- THE VEHICLE USED FOR TOWING MUST BE RATED BY THE VEHICLE MANUFACTURER FOR WEIGHT OF THE TRAILER / EQUIPMENT TO BE TOWED. DO NOT EXCEED THE VEHICLE MANUFACTURER'S MAXIMUM RATED TOWING CAPACITY.
- THE VEHICLE USED FOR TOWING MUST HAVE AN ADEQUATE BRAKE SYSTEM TO SAFELY DECELERATE AND STOP THE TOWING VEHICLE AND TRAILER / EQUIPMENT BEING TOWED.
- TOWING TRAILER / EQUIPMENT LENGTHENS STOPPING DISTANCES. ALLOW ADEQUATE DISTANCE FOR STOPPING. ANTICIPATE STOPS SO YOU CAN BRAKE GRADUALLY.
- TOW TRAILER / EQUIPMENT AT A REASONABLE SPEED TAKING INTO ACCOUNT ROAD CONDITIONS, ROAD GRADE, WEATHER, VISIBILITY AND STOPPING DISTANCE TO ASSURE SAFE OPERATION. POSTED SPEED LIMITS SHOULD BE OBSERVED AT ALL TIMES.
- THE TRAILER / EQUIPMENT BEING TOWED MUST BE IN A SAFE, USABLE CONDITION TO BE TOWED.
- MAKE SURE THAT THE VEHICLE HAS:
  - THE FRONT AND REAR RAIL PILOT UNITS RAISED AND LOCKED IN THE HIGHWAY POSITION.
  - THE STEERING WHEEL LOCK DISENGAGED.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.

## Towing Trailer / Equipment With The Vehicle On Road



2

- THIS MULTIPURPOSE VEHICLE HAS SPECIAL DESIGNS AND EQUIPMENT FEATURES FOR OFF-ROAD USE. IT HANDLES DIFFERENTLY FROM AN ORDINARY PASSENGER CAR IN DRIVING CONDITIONS THAT MAY OCCUR ON STREETS, HIGHWAYS AND OFF-ROAD. WEIGHT AND LOCATION OF AVAILABLE PAYLOAD MAY ALSO AFFECT THE HANDLING OF THIS VEHICLE. DRIVE WITH CARE AND WEAR SAFETY BELTS AT ALL TIMES. READ VEHICLE OWNER'S MANUAL FOR ADDITIONAL PRECAUTIONS.
  - OBSERVE AND FOLLOW ALL FEDERAL, STATE AND LOCAL DRIVING RULES AND REGULATIONS.
  - STATE LAWS MAY REQUIRE TOWING VEHICLE AND TRAILER / EQUIPMENT BEING TOWED TO BE EQUIPPED WITH SPECIAL SAFETY EQUIPMENT (MIRRORS ON BOTH SIDES OF TOWING VEHICLE, TRAILER BRAKES, TRAILER LIGHTS, ETC.).
  - CAREFULLY AND THOROUGHLY PREPARE YOUR VEHICLE FOR TOWING, MAKING SURE TO USE THE RIGHT TOWING EQUIPMENT AND TO ATTACH IT PROPERLY.
  - THE TOWING EQUIPMENT (HITCHES, TOW BARS, ETC.) MUST BE ATTACHED TO THE VEHICLE FRAME. DO NOT MOUNT OR ATTACH TOWING EQUIPMENT TO THE RAIL PILOT UNITS.
  - THE TOWING EQUIPMENT (HITCH, TOW BAR, ETC.) MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN WEIGHT OF THE TRAILER / EQUIPMENT BEING TOWED.
- FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.

## Towing Trailer / Equipment With The Vehicle On Road

1. See your vehicle operator's manual for towing information.
2. Use the vehicle manufacturer's recommendations to determine the maximum weight the towing vehicle can tow. Do not exceed the vehicle manufacturer's maximum rated towing capacity.
3. The towing vehicle must have an adequate brake system to safely decelerate and stop the towing vehicle and the trailer / equipment being towed. Towing trailer / equipment lengthens stopping distances. Allow adequate distance for stopping. Anticipate stops so that you can brake gradually.
4. Make sure that the vehicle has:
  - a. The front and rear rail pilot units raised and locked in the highway position.
  - b. The steering wheel lock disengaged.
5. Make sure the towing vehicle and the trailer / equipment are in good working condition (tires, brakes, lights, etc.) and that current maintenance has been performed on the vehicle and trailer / equipment.
6. The towing equipment (hitches, tow bars, etc.) on the towing vehicle must have a rating equal to or greater than the weight of the trailer / equipment being towed.
7. The towing equipment (hitches, tow bars, etc.) must be attached to the towing vehicle frame. Do not mount or attach the towing equipment to the rail pilot units.
8. Observe and follow all federal, state and local driving rules, regulations and laws.
9. State laws may require the towing vehicle and/or the trailer / equipment being towed to be equipped with special safety equipment (mirrors on both sides of the towing vehicle, trailer brakes, trailer lights, etc.).
10. Tow the trailer / equipment on the road at a reasonable speed taking into account road conditions, road grade, weather, visibility and stopping distance to assure safe operation. Always observe posted speed limits.
11. Always chock the trailer wheels before unhooking the trailer from the towing vehicle.

## Towing The Disabled Vehicle On Track



2

- THE TOWING VEHICLE / MACHINE MUST WEIGH AS MUCH OR MORE THAN THE DISABLED VEHICLE BEING TOWED.
- THE VEHICLE / MACHINE USED FOR TOWING MUST HAVE AN ADEQUATE BRAKE SYSTEM TO SAFELY DECELERATE AND STOP THE TOWING VEHICLE / MACHINE AND THE DISABLED VEHICLE BEING TOWED.
- TOWING THE DISABLED VEHICLE LENGTHENS STOPPING DISTANCES. ALLOW ADEQUATE DISTANCE FOR STOPPING. ANTICIPATE STOPS SO YOU CAN BRAKE GRADUALLY.
- TOW THE DISABLED VEHICLE AT A REASONABLE SPEED, 10 MPH (16 km/h) MAXIMUM, TAKING INTO ACCOUNT TRACK CONDITIONS, TRACK GRADE, WEATHER, VISIBILITY AND STOPPING DISTANCE TO ASSURE SAFE OPERATION. RAILROAD RULES GOVERNING SPEED LIMITS AND RIGHT OF WAY SHOULD BE OBSERVED AT ALL TIMES.
- STOPPING DISTANCE IS GREATER ON TRACK THAN ON TYPICAL ROAD SURFACES. APPLY BRAKES GRADUALLY TO AVOID SLIDING THE TOWING VEHICLE / MACHINE WHEELS.
- MAKE SURE THAT THE DISABLED VEHICLE HAS:
  - THE FRONT AND REAR RAIL PILOT UNITS LOWERED AND LOCKED IN THE RAIL POSITION.
  - ALL FRONT AND REAR GUIDE WHEEL FLANGES ENGAGED ON THE INSIDE OF THE RAILS.
  - THE STEERING WHEEL LOCK ENGAGED WITH THE FRONT WHEELS STRAIGHT AHEAD.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.

## Towing The Disabled Vehicle On Track



- THE TOW BAR MUST BE ATTACHED TO DISABLED VEHICLE FRAME. DO NOT MOUNT OR ATTACH THE TOW BAR TO THE DISABLED VEHICLE RAIL PILOT UNITS.
- THE TOW BAR MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN WEIGHT OF THE DISABLED VEHICLE BEING TOWED.
- USE A RIGID TYPE TOW BAR WITH SAFETY LOCKING COUPLERS. DO NOT USE CHAIN, WIRE ROPE ETC.
- OBSERVE AND FOLLOW ALL RAILROAD SAFETY RULES AND REGULATIONS.
- DO NOT ACCELERATE SUDDENLY. TRACTION IS REDUCED ON TRACK, SPINNING THE TOWING VEHICLE / MACHINE WHEELS COULD DAMAGE THEM.
- TOW THE DISABLED VEHICLE TO THE NEAREST ROAD CROSSING AND REMOVE IT FROM THE TRACK.

**FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**



## Towing The Disabled Vehicle On Track

2

1. See your vehicle operator's manual for towing information.
2. The towing vehicle / machine must have an adequate brake system to safely decelerate and stop the towing vehicle / machine and the disabled vehicle being towed. The towing vehicle / machine must weigh as much or more than the disabled vehicle towed.
3. Make sure that the disabled vehicle has:
  - a. The front and rear rail pilot units lowered and locked in the rail position.
  - b. All front and rear guide wheel flanges engaged on the inside of the rails.
  - c. The front wheels are set straight ahead and the steering wheel lock is engaged.
4. Make sure the towing vehicle / machine is in good working condition (tires, brakes, lights, etc.) and that current maintenance has been performed on the vehicle / machine.
5. The towing equipment (hitches, tow bars, etc.) on the towing vehicle / machine must have a rating equal to or greater than the weight of the disabled vehicle being towed.
6. The tow bar must be mounted or attached to the disabled vehicle's frame. Do not mount or attach the tow bar to the disabled vehicle's rail pilot units. Use a rigid type tow bar with safety locking couplers.
7. Observe and follow all railroad safety rules and regulations.
8. Do not accelerate suddenly. Traction is reduced on track. Spinning the towing vehicle tires / machine wheels could damage them.
9. Stopping distance is greater on track than on typical road surfaces. Apply the towing vehicle / machine brakes gradually to avoid sliding the vehicle tires / machine wheels. Towing disabled vehicle lengthens stopping distances. Allow adequate distance for stopping. Anticipate stops so that you can brake gradually.
10. Tow the disabled vehicle on the track at a reasonable speed, 10 MPH (16 km/h) maximum, taking into account track conditions, track grade, weather, visibility and stopping distance to assure safe operation. Railroad rules and regulations governing speed limits and right of way should be observed at all times.
11. Tow the disabled vehicle to the nearest road crossing and remove the vehicle from the track.

## Towing The Disabled Vehicle On Road



- TOW THE DISABLED VEHICLE PER THE VEHICLE MANUFACTURER'S TOWING SPECIFICATIONS LISTED IN YOUR VEHICLE'S OPERATORS MANUAL.
- THE VEHICLE USED FOR TOWING MUST HAVE AN ADEQUATE BRAKE SYSTEM TO SAFELY DECELERATE AND STOP TOWING VEHICLE AND DISABLED VEHICLE BEING TOWED.
- TOW THE DISABLED VEHICLE AT A REASONABLE SPEED TAKING INTO ACCOUNT ROAD CONDITIONS, ROAD GRADE, WEATHER, VISIBILITY AND STOPPING DISTANCE TO ASSURE SAFE OPERATION. POSTED SPEED LIMITS SHOULD BE OBSERVED AT ALL TIMES.
- MAKE SURE THE DISABLED VEHICLE HAS:
  - THE FRONT AND REAR RAIL PILOT UNITS RAISED AND LOCKED IN THE HIGHWAY POSITION.
  - THE STEERING WHEEL LOCK DISENGAGED.

FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.



- TOWING EQUIPMENT (TOW TRUCK, TOW BARS, ETC.) MUST BE ATTACHED TO THE DISABLED VEHICLE FRAME. DO NOT MOUNT OR ATTACH TOWING EQUIPMENT TO THE DISABLED VEHICLE RAIL PILOT UNITS.
- THE TOWING EQUIPMENT (TOW TRUCK, TOW BARS, ETC.) MUST HAVE A RATED TOWING CAPACITY EQUAL TO OR GREATER THAN WEIGHT OF THE DISABLED VEHICLE BEING TOWED.
- OBSERVE AND FOLLOW ALL FEDERAL, STATE AND LOCAL DRIVING RULES AND REGULATIONS.
- STATE LAWS MAY REQUIRE TOWING VEHICLE AND DISABLED VEHICLE TO BE EQUIPPED WITH SPECIAL SAFETY EQUIPMENT (LIGHTS, ETC.).

FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.

## Towing The Disabled Vehicle On Road

1. See your vehicle operator's manual for towing information.
2. The towing vehicle must have an adequate brake system to safely decelerate and stop the towing vehicle and the disabled vehicle being towed.
2. Make sure that the disabled vehicle has:
  - a. The front and rear rail pilot units raised and locked in the highway position.
  - b. The steering wheel lock is disengaged.
4. Make sure the towing vehicle is in good working condition (tires, brakes, lights, etc.) and that current maintenance has been performed on the vehicle.
5. The towing equipment (tow truck, tow bars, etc.) on the towing vehicle must have a rating equal to or greater than the weight of the disabled vehicle being towed.
6. The towing equipment (tow truck, tow bars, etc.) must be mounted or attached to the disabled vehicle frame. Do not mount or attach the towing equipment to the disabled vehicle's rail pilot units.
7. Observe and follow all federal, state and local driving rules, regulations and laws.
8. State laws may require the towing vehicle and the disabled vehicle being towed to be equipped with special safety equipment (lights, etc.).
9. Tow the disabled vehicle on the road at a reasonable speed taking into account road conditions, road grade, weather, visibility and stopping distance to assure safe operation. Always observe posted speed limits.

**SECTION 3 - ADJUSTMENTS  
TABLE OF CONTENTS**

**Guide Wheel Equipment Alignment Procedure**

VEHICLE CHECK ..... 3 - 2  
PLACING VEHICLE ON TRACK ..... 3 - 3  
RAIL PILOT UNIT TRACK GAUGE ..... 3 - 4  
GUIDE WHEEL ARM VERTICAL HEIGHT ..... 3 - 5  
GUIDE WHEEL LOAD ..... 3 - 7  
STRING LINING SET-UP ..... 3 - 11  
RAIL PILOT UNIT ALIGNMENT ..... 3 - 12  
GUIDE WHEEL OVERLOAD SET SCREWS ..... 3 - 14  
GUIDE WHEEL HIGHWAY SET SCREWS ..... 3 - 15  
VEHICLE TRACK TEST ..... 3 - 16

**Adjustments**

LOCKING MECHANISM ..... 3 - 17  
    Rail Position ..... 3 - 17  
    Highway Position ..... 3 - 17  
RAIL SWEEP ..... 3 - 18

## Guide Wheel Equipment Alignment Procedure



■ **BEFORE PERFORMING ANY ADJUSTMENTS TO THE RAIL PILOT UNITS OR VEHICLE, ALWAYS PLACE THE AUTOMATIC TRANSMISSION IN "PARK" OR THE MANUAL TRANSMISSION IN "NEUTRAL". APPLY PARKING BRAKE.**

■ **UNDERSTAND EQUIPMENT OPERATION AND BE AWARE OF ALL PINCH POINTS BEFORE OPERATING OR MAKING ADJUSTMENTS TO THE GUIDE WHEEL EQUIPMENT.**

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN SEVERE BODILY INJURY.**

3

The Guide Wheel Alignment Procedure must be completed when the guide wheel equipment is applied to the vehicle, or when any of the misalignment indicators occur. See Operation Section -Misalignment Indicators.

### VEHICLE CHECK

1. The vehicle must be at curb weight with permanent attachments: spare tire, tool box less tools, utility box, crane, aerial lift boom, etc. and without: passengers, baggage, load, etc.
2. Permanent attachments to the vehicle such as a tool box, utility box, crane aerial lift boom, etc. which could cause uneven loading on the guide wheels should be compensated for by adjusting the vehicle suspension by adding leaf springs, coil springs, torsion bars, etc.
3. Tires must be inflated to the tire manufacturer's recommended maximum pressure printed on the sidewalls of the tires or the wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower.
4. Visually inspect the entire vehicle, especially the guide wheel equipment for loose or missing bolts and bent or damaged components. Tighten, repair or replace as necessary.
5. Verify that the vehicle that the guide wheel equipment is being mounted on is equipped correctly (springs, tires, wheels, etc.). See the Harsco Track Technologies HY-RAIL® Vehicle Specifications Manual.
6. Check the following measurements on the vehicle that the guide wheel equipment is to be mounted on before applying the guide wheel equipment to the vehicle.
  - a. Frame must be square. Diagonal measurements of frame should be equal within 1/8 inch (3.2 mm).
  - b. Wheelbase (as measured on each side) must be equal within 1/16 inch (1.8 mm).
  - c. Vehicle axles must be square with the frame within 1/64 inch per foot (.4 mm per 305 mm). Harsco Track Technologies, Harsco Corporation recommends that this be checked by a reputable alignment shop.

## Guide Wheel Equipment Alignment Procedure

### VEHICLE CHECK

7. Follow the mounting instructions on the application drawing which is supplied with each Guide Wheel Equipment Group.
8. After mounting the guide wheel equipment, have the front wheels of the vehicle checked for caster, camber, and toe-in. If necessary, adjust to vehicle manufacturer's recommendations.

### PLACING VEHICLE ON TRACK

9. Place the vehicle on straight, level, tangent track or on an alignment rack constructed for guide wheel equipment alignment. Place the automatic transmission in "Park" or manual transmission in "Neutral". Apply the parking brake. Stop the engine. Lower and lock all four guide wheels in the "rail" position. See Operation Section -Placing Vehicle On Track.

If track or an alignment rack is not available, use 6 x 6 inch lumber, on a level floor, to simulate track. Space the lumber so it measures 56-1/2 inches between the inside edges. Using 6 x 6 inch lumber will allow the wheel weighing jack to fit underneath the wheel arm to weigh the guide wheel load when the guide wheels are in the "rail" position.

10. Set the vehicle wheels straight ahead. Secure the steering wheel using the steering lock.

## Guide Wheel Equipment Alignment Procedure

### RAIL PILOT UNIT TRACK GAUGE - See Figures 3-1 and 3-7

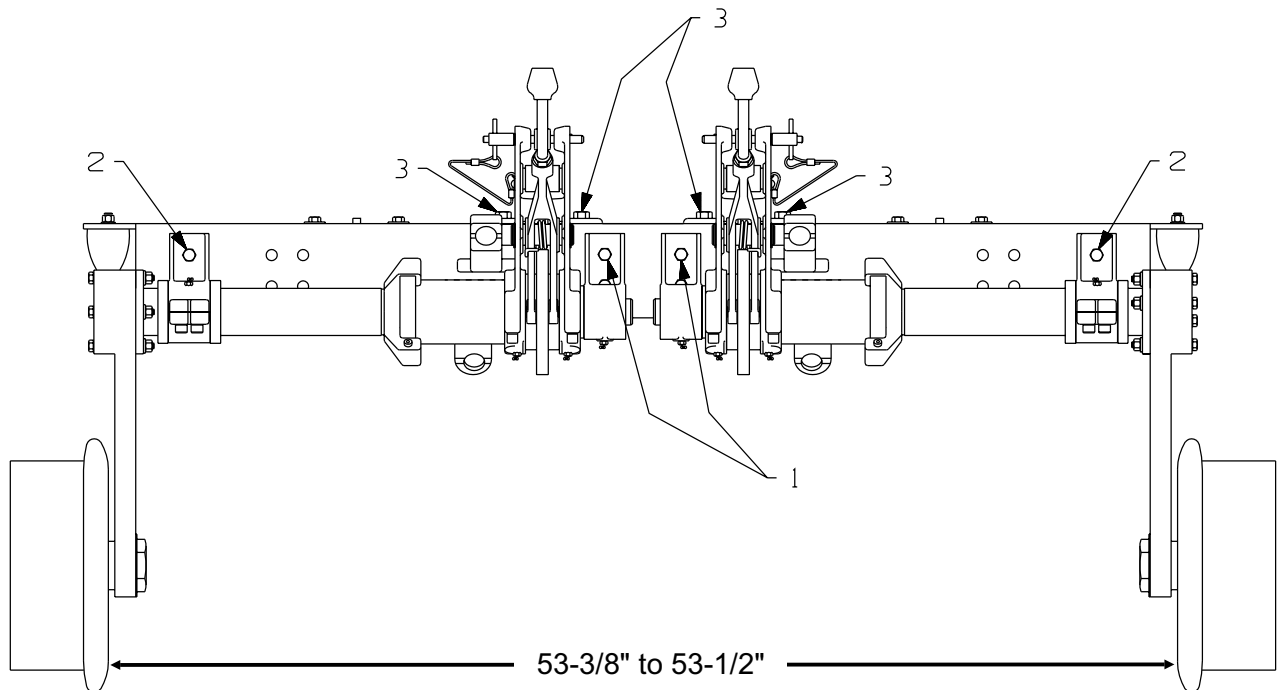
11. Measure the track gauge of both the front and rear rail pilot units. Measure from back of left wheel flange, directly below the center line of the wheel spindle, to the same point on the right wheel flange. Track gauge must be 53-3/8 - 53-1/2 inches (1356 - 1359 mm) for both the front and rear rail pilot units. If not see Adjustment.

### Adjustment

3

- a. Unlock both front and/or both rear guide wheels from the "rail" position. Let the guide wheels rest on the rail.
- b. Loosen the inner (1) and outer (2) pivot bearings and trunnion nut bracket cap screws (3). Shift one or both of the guide wheel assemblies. Re-tighten the cap screws.
- c. Lock all guide wheels in the "rail" position. Recheck the rail pilot unit track gauge.
- d. Repeat the procedure until the rail pilot unit track gauge is correct.

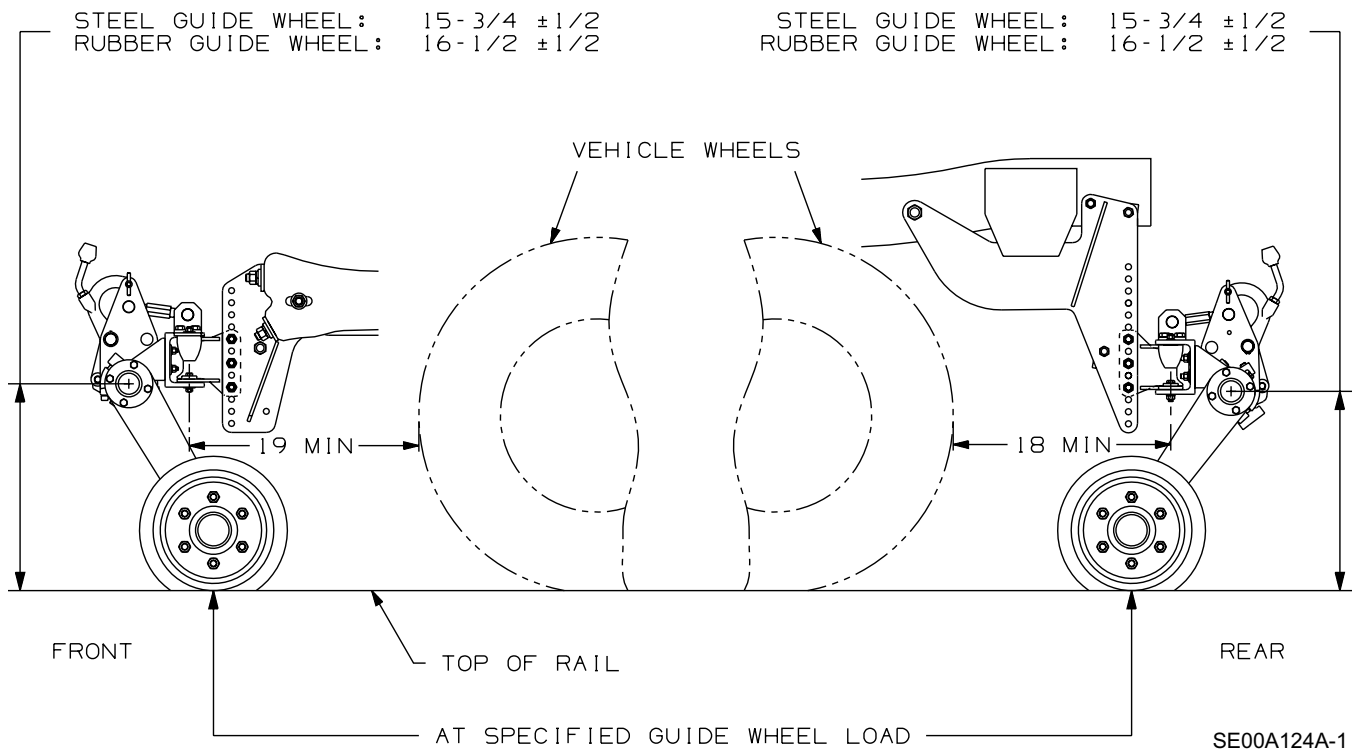
FIGURE 3-1  
RAIL PILOT UNIT



SE97A166A-1

### Guide Wheel Equipment Alignment Procedure

FIGURE 3-2  
RAIL PILOT UNIT WHEEL ARM VERTICAL HEIGHT



3

#### GUIDE WHEEL ARM VERTICAL HEIGHT - See Figures 3-2, 3-3 and 3-4

- Figure 3-2 illustrates a side view of a typical HR0307 Series A HY-RAIL® Guide Wheel Equipment application. Rail pilot unit mounts may vary in detail, depending on the vehicle.
- Lower and lock all four guide wheels in the "rail" position. Measure the vertical distance from the top of the rail to the pivot center of the wheel arm on all guide wheels.

With the vehicle at curb weight, the recommended height is 16-1/2" ±1/2"  
(419 mm ±12.7 mm) @ specified guide wheel load.

*Note: For maximum load carrying capacity, set both rear wheel arms to the upper recommended height limit.*

If the vertical height is not correct on any of the wheel arms, see Adjustment.



## Guide Wheel Equipment Alignment Procedure

**GUIDE WHEEL ARM VERTICAL HEIGHT** - See Figures 3-2, 3-3 and 3-4

### Adjustment

- a. Unlock both front and/or both rear guide wheels from the "rail" position. Let the guide wheels rest on the rails.
- b. Readjust only the wheel arm(s) that were initially not within the recommended height. The difference between the measured height and the recommended height is the approximate height that the wheel arms must be adjusted.
- c. Figures 3-3 and 3-4 illustrate typical mounting bracket configurations used on the front and rear rail pilot units. Mounting brackets may vary in detail, depending on the vehicle.
- d. The adjustments can be made in 1 inch or 1/2 inch increments. Either one or a combination of both can be used to achieve the recommended height. Before removing any bolts, securely block the rail pilot unit.

1 inch (25.4 mm) increments:      Remove cap screws (1) and relocate in a different set of holes in the mounting plate (2). Reinstall and re-tighten the cap screws.

1/2 inch (12.7 mm) increments:      Remove cap screws (3) and mounting bracket (4). Reverse the mounting bracket (4) (top to bottom) and reinstall. Be sure to reinstall the 1/32" and 1/16" shims (5) on the top or bottom of the mounting bracket (4). The mounting bracket (4) must fit snug inside of the cross channel (6). The shims are used as required. Reinstall and re-tighten the cap screws.

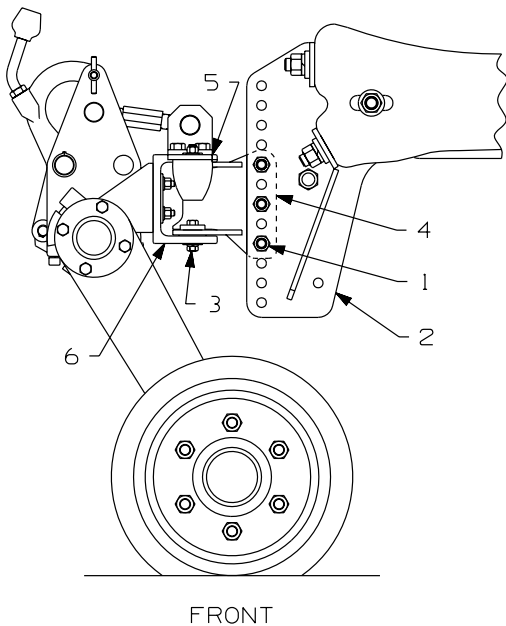
- e. Lock all guide wheels in the "rail" position. Recheck the vertical height on all wheel arms.

*Note: Any wheel arm height adjustment made may change the guide wheel load. Recheck the guide wheel load. Wheel arm vertical height and guide wheel load must both be attained at the same time within the specified height dimensions and load limits. If the wheel arm vertical height and guide wheel load can not be attained at the same time within the specified height dimensions and load limits, the rubber cords may need to be replaced.*

## Guide Wheel Equipment Alignment Procedure

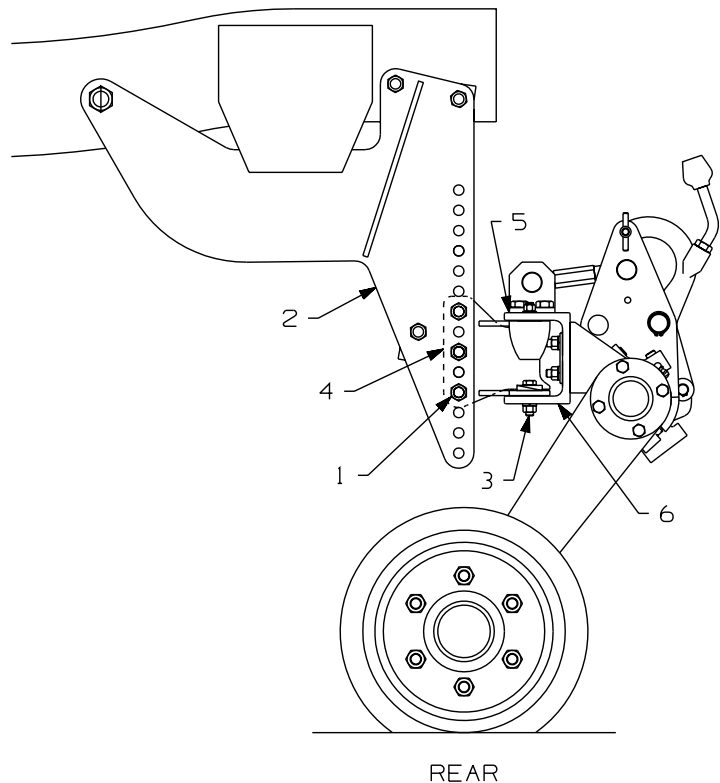
### GUIDE WHEEL ARM VERTICAL HEIGHT

FIGURE 3-3  
GUIDE WHEEL ARM VERTICAL  
ADJUSTMENT  
FRONT RAIL PILOT UNIT



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FIGURE 3-4  
GUIDE WHEEL ARM VERTICAL ADJUSTMENT  
REAR RAIL PILOT UNIT



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### GUIDE WHEEL LOAD



■ DO NOT USE ANY OTHER JACK THAN THE HARSCO TRACK TECHNOLOGIES WHEEL WEIGHING JACK NO. 073527 TO CHECK THE GUIDE WHEEL LOAD. USE OF ANY OTHER JACK WILL RESULT IN INCORRECT GUIDE WHEEL LOAD INFORMATION.

■ DO NOT USE THE WHEEL WEIGHING JACK TO LIFT THE VEHICLE. EXCESSIVE WEIGHT MAY CAUSE JACK TO FAIL. MISUSE OF WHEEL WEIGHING JACK MAY CAUSE GAUGE TO EXPLODE. READ ANSI B40.1 AND APPARATUS INSTALLATION / OPERATING INSTRUCTIONS BEFORE USE.

FAILURE TO HEED THESE PRECAUTIONS COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.

## Guide Wheel Equipment Alignment Procedure

### GUIDE WHEEL LOAD - See Figures 3-5 and 3-6

14. Lower and lock all guide wheels in the "rail" position. Do not use any other jack than the Harsco Track Technologies wheel weighing jack no. 073527 to check the guide wheel load. Use of any other jack will result in incorrect guide wheel load information. Place the wheel weighing jack (part no. 073527) under the guide wheel arm directly below the wheel spindle, see Figure 3-5. Jack the guide wheel up until the guide wheel just clears the top of the rail. Note the gauge reading. The gauge reading indicates the pounds of load on the guide wheel.

3

*Note: An easy way to tell when the guide wheel just clears the top of rail is to jack the wheel up approximately 1/4" (6.4 mm) above the top of the rail. Place a piece of paper between the rail and the guide wheel. Lower the guide wheel onto the paper. Slowly jack the guide wheel up while applying a steady pulling force on the paper until the paper can be pulled out. Note the gauge reading when the paper can be removed.*

With the vehicle at curb weight, the recommended guide wheel load is 350 - 400 lbs (159 - 182 kg) @ specified guide wheel height

*Note: For maximum load carrying capacity, set both rear guide wheels to the lower recommended load limit.*

With the vehicle loaded, the maximum guide wheel load is 700 lbs (318 kg).

If the load is not correct on any guide wheel, see Adjustment.

### Adjustment

- a. Unlock both front and/or rear guide wheels from the "rail" position. Let the guide wheels rest on the rails.
- b. Figure 3-6 illustrates the load adjustment stud on the front and rear units. Each guide wheel is adjusted independently of the other.
- c. Loosen the jam nut (1) using the provided wrench (part no. 079792).

To Increase The Load: Turn the adjusting stud (2) clockwise, shortening the distance between the trunnion nuts (3).

To Decrease The Load: Turn the adjusting stud (2) counter-clockwise, lengthening the distance between the trunnion nuts (3).

## Guide Wheel Equipment Alignment Procedure

### GUIDE WHEEL LOAD - continued

- d. Lock all guide wheels in the "rail" position. Recheck the guide wheel load on all guide wheels. When the load indicated is within the recommended weight, tighten the jam nut (1) securely.
- e. If the recommended guide wheel load cannot be achieved by turning the adjusting stud, the guide wheel arm vertical height must be adjusted lower.

*Note: Any guide wheel load adjustment made may change the guide wheel arm vertical height. Recheck the guide wheel arm vertical height. Guide wheel load and guide wheel arm vertical height must both be attained at the same time within the specified load limits and height dimensions.*

- 15. The end of the load adjusting stud (2) should not extend more than 1/4 inch (6.4 mm) beyond and not more than 1/8 inch (3.2 mm) within the face of the trunnion nut (3).

If adjusting stud extends more than 1/4 inch (6.4 mm) beyond the face of the trunnion nut, it may be necessary to replace the rubber cords in the torque coupling.

If the end of the adjusting stud is within the face of the trunnion nut, there may be foreign material lodged in the torque coupling assembly. Disassemble and clean.

FIGURE 3-5  
WHEEL WEIGHING JACK

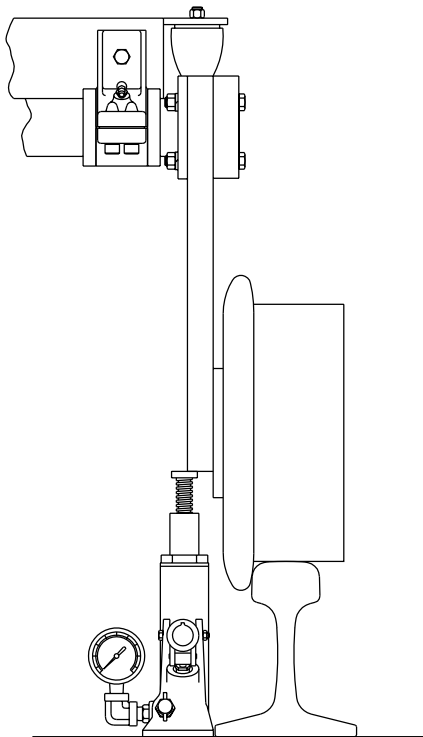
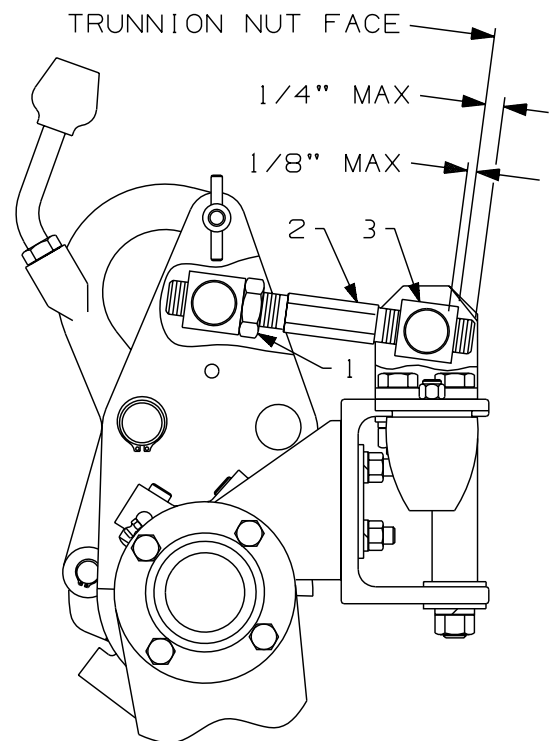


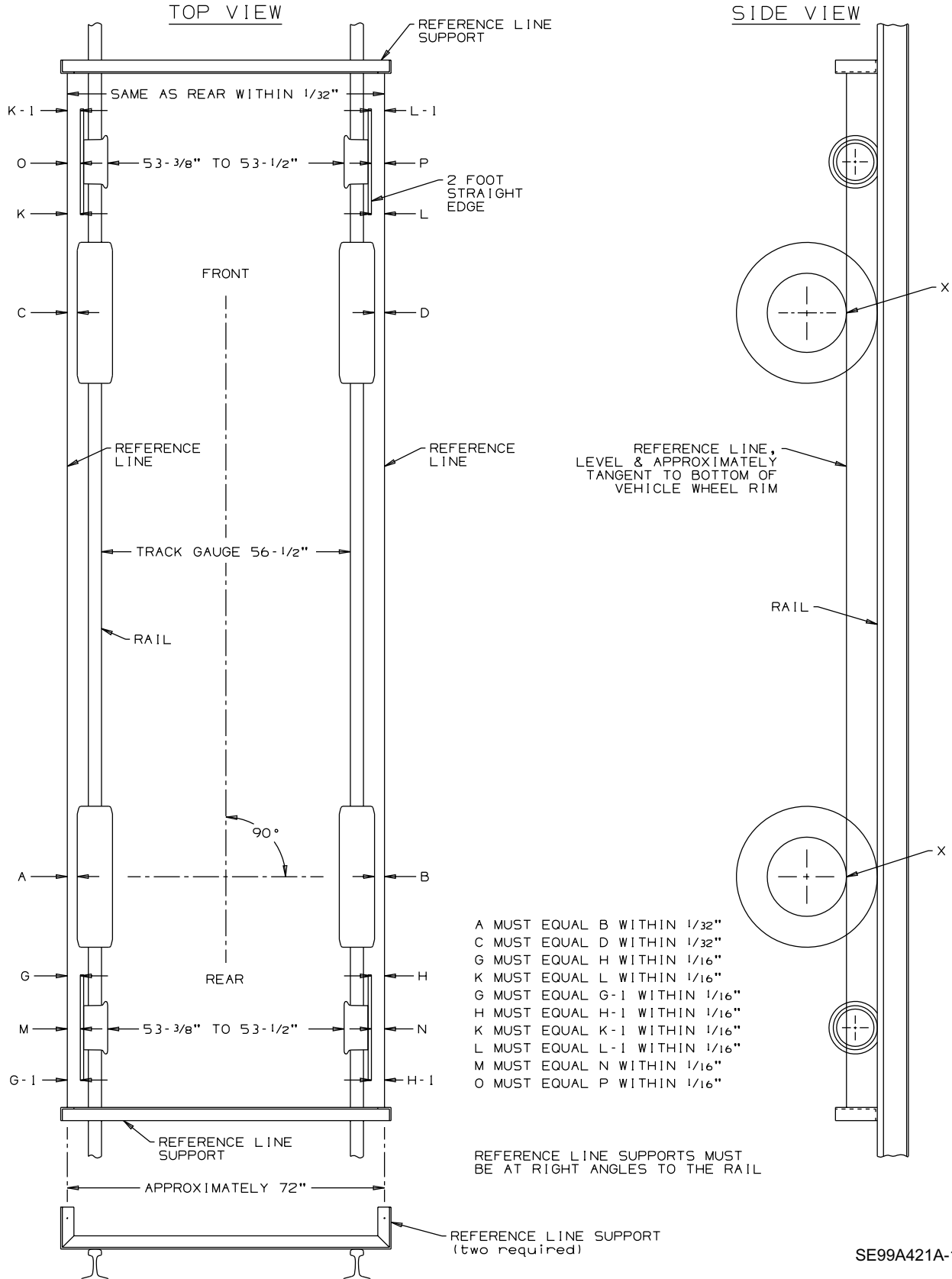
FIGURE 3-6  
LOAD ADJUSTING STUD



**Guide Wheel Equipment Alignment Procedure**

**FIGURE 3-7  
GUIDE WHEEL EQUIPMENT ALIGNMENT**

3



## Guide Wheel Equipment Alignment Procedure

### STRING LINING SET-UP - See Figure 3-7

The string lining procedure is only a guide to check and make alignment adjustments to the guide wheel equipment. String lining the vehicle and guide wheel equipment will not guarantee that the guide wheel equipped vehicle will track properly. Harsco Track Technologies recommends that all HY-RAIL® equipped vehicles be track tested. The vehicle should be at its normal operating load for track testing. The vehicle should be track tested when:

- a. The guide wheel equipment is installed on the vehicle.
- b. Any adjustments are made to the guide wheel equipment.
- c. The load on the vehicle is changed.
- d. Periodically to ensure that the vehicle is tracking properly.

16. Establish parallel reference lines on each side of vehicle as shown in Figure 3-7.
17. Parallel reference lines can be established by building two supports or brackets. These can be built out of scrap angle iron or other material. The supports should be approximately 6 inches high, and a few inches longer than the width of the vehicle. Wires or cords stretched between the front and rear supports will be the reference lines. The wires or cords should be spaced approximately 72 inches apart. The distance between the wires or cords must be equal or within 1/32 inch at each support.
18. Clamp the supports to the rail in front of and behind the vehicle. The supports should be at right angles to the rail. Stretch the wires or cords between the supports, level with the bottom edge of the vehicle wheel rim (point X). The reference lines must be level.
19. Shift the supports on the rail until dimensions  $A = B$  and  $C = D$  are equal or within 1/32 inch. These measurements should be taken from the edge of the vehicle rim directly below the axle (point X) to the reference line. When shifting the supports, keep them at right angles to the rail so the reference lines stay level and parallel to each other. Rotate the vehicle wheels 180 degrees and recheck the measurements. If the measurements change, set the reference lines at the average of the two measurements.
20. After the reference lines have been established, measurements can be taken from these lines to the guide wheels to ensure correct alignment.

## Guide Wheel Equipment Alignment Procedure

### RAIL PILOT UNIT ALIGNMENT - See Figures 3-7 and 3-8

21. Lower and lock all guide wheels in the "rail" position. Take measurements M, N, O & P. Measure from the outer edge of the guide wheels, directly below the center line of the wheel spindle, to the reference line. Measurements M, N, O & P must all be equal or within 1/16 inch. If not, see Adjustment.

### Adjustment

3

- a. Unlock both front and/or both rear guide wheels from the "rail" position. Let the guide wheels rest on the rails.
  - b. Loosen the eight adapter bracket cap screws (3) on the top and bottom of the cross channel. Shift the entire rail pilot unit until measurements M, N, O & P are all equal. Re-tighten the cap screws.
  - c. Lock all guide wheels in the "rail" position. Recheck the rail pilot unit alignment.
  - d. Repeat the procedure until the rail pilot unit alignment is correct.
22. Lower and lock all guide wheels in the "rail" position. The guide wheels must track straight, not toed in or out. Hold a two foot long straight edge against the outer edge of the guide wheel with the straight edge centered on the guide wheel. Check that dimensions  $G = G-1$ ,  $H = H-1$ ,  $K = K-1$  &  $L = L-1$ . These dimensions must be equal or within 1/16 inch. If not, see Adjustment.

*Note: When verifying whether the guide wheel is toed-in or toed-out, it may be helpful to visualize the traveling direction of the vehicle when in rail position.*

*The guide wheel is toed-in if the front dimension of the straight edge to the reference line is larger than the rear dimension. (Example - Left Rear Guide Wheel: Dimension G is larger than dimension G-1).*

*The guide wheel is toed-out if the front dimension of the straight edge to the reference line is smaller than the rear dimension. (Example - Left Rear Guide Wheel: Dimension G is smaller than dimension G-1).*

- a. Unlock both front and/or both rear guide wheels from the "rail" position. Let the guide wheels rest on the rails.
- b. Loosen the appropriate inner (1) or outer (2) pivot bearing cap screws. Add or remove shims (4) (part no. 101818) between the pivot bearing and cross channel. Re-tighten the cap screws.

## Guide Wheel Equipment Alignment Procedure

### RAIL PILOT UNIT ALIGNMENT - continued

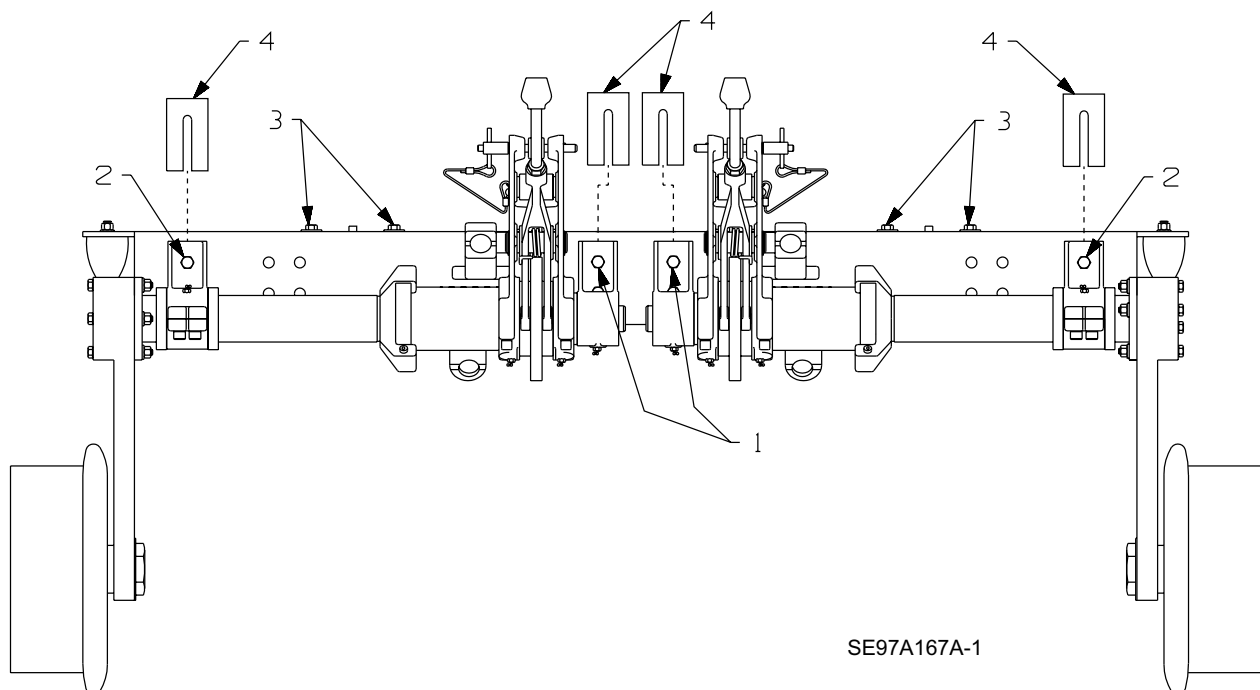
#### Adjustment

*Note: Do not use more than two shims on any pivot bearing during the original application of the guide wheel units or three shims on any pivot bearing during field inspection and adjustment.*

Front Guide Wheel Toed In:	Add shims to inner pivot bearing or remove shims from outer pivot bearing.
Front Guide Wheel Toed Out:	Add shims to outer pivot bearing or remove shims from inner pivot bearing.
Rear Guide Wheel Toed In:	Add shims to outer pivot bearing or remove shims from inner pivot bearing.
Rear Guide Wheel Toed Out:	Add shims to inner pivot bearing or remove shims from outer pivot bearing.

- c. Lock all guide wheels in the "rail" position. Recheck the rail pilot unit alignment.
- d. Repeat the procedure until the rail pilot unit alignment is correct.

FIGURE 3-8  
RAIL PILOT UNIT



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## Guide Wheel Equipment Alignment Procedure

### GUIDE WHEEL OVERLOAD SET SCREWS - See Figure 3-9

23. The "rail" overload set screws carry the load in case of an overload or a tire failure, instead of transferring the load through the rubber cords when the guide wheels are in the "rail" position. Each guide wheel has two overload set screws for a combined total of eight on the vehicle.
24. Lower and lock all guide wheels in the "rail" position. With the vehicle at curb weight, measure the distance between the set screw and the stop on the casting.

3

The recommended dimension for all eight overload set screws is 3/8 inch (9.5 mm).

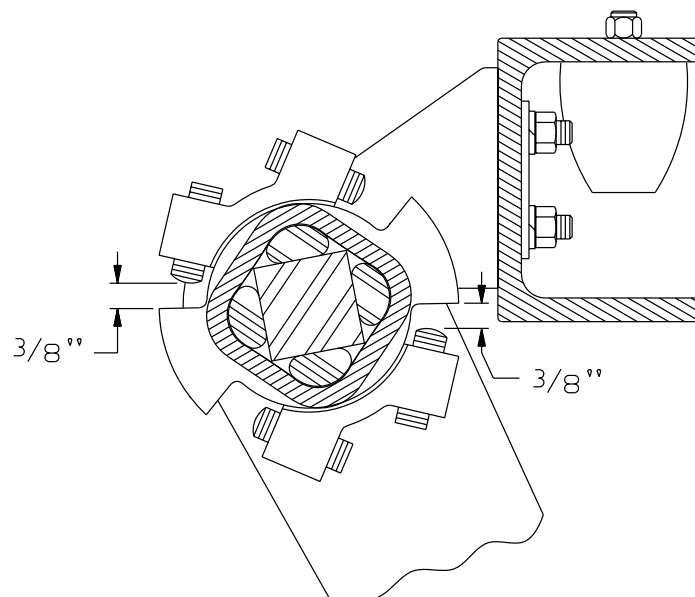
*Note: An easy way to check the dimension is to insert a 3/8 inch cap screw in the gap. If the cap screw slips in with little play, the overload dimension is correct. If the cap screw does not slip in or is sloppy, adjustment is necessary.*

If any of the eight overload set screws are not set correctly, see Adjustment.

### Adjustment

- Insert the 3/8 inch cap screw in the gap. Tighten or loosen the set screw until the cap screw is snug with little play.
- Repeat the procedure to set all eight overload set screws.

FIGURE 3-9  
GUIDE WHEEL OVERLOAD ADJUSTMENT



## Guide Wheel Equipment Alignment Procedure

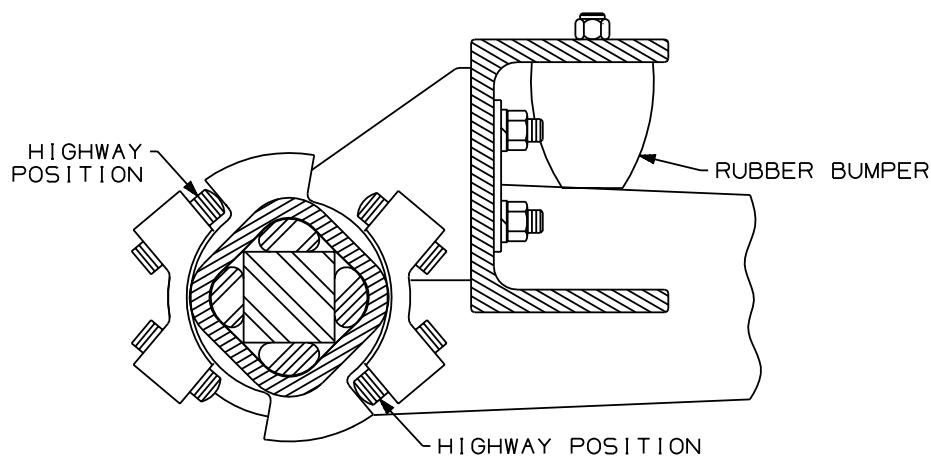
### GUIDE WHEEL HIGHWAY SET SCREWS - See Figure 3-10

25. The highway set screws secure the guide wheel arms against the rubber bumpers on the cross frame when the rail pilot units are in the "highway" position. The rubber bumpers absorb the shocks encountered in highway driving instead of transferring the shocks through the rubber cords. Each guide wheel has two highway set screws for a combined total of eight on the vehicle.
26. Raise and lock all guide wheels in the "highway" position. The wheel arms should be solidly against the rubber bumpers. If any of the highway set screws are not set correctly, see adjustment.

### Adjustment

- a. Unlock the guide wheel from the "highway" position. Let the guide wheel rest on the rails.
- b. Turn both highway set screws to move the wheel arm up or down.
- c. Lock the guide wheel in the "highway" position. Recheck the guide wheel arm.
- d. Repeat the procedure until the guide wheel arm is solidly against the rubber bumper. If the rubber bumper is worn so the arm cannot be adjusted solidly against it, replace the bumper.

FIGURE 3-10  
GUIDE WHEEL HIGHWAY ADJUSTMENT



## Guide Wheel Equipment Alignment Procedure

### VEHICLE TRACK TEST



■ **CHECK AND CORRECT ALIGNMENT PROMPTLY IF MISALIGNMENT IS INDICATED. MISALIGNMENT OF GUIDE WHEEL EQUIPMENT COULD RESULT IN DERAILMENT OF THE VEHICLE AND SEVERE BODILY INJURY.**

3

27. Harsco Track Technologies recommends that all HY-RAIL® equipped vehicles be track tested. The vehicle should be at its normal operating load for track testing. The vehicle should be track tested when:
  - a. The guide wheel equipment is installed on the vehicle.
  - b. Any adjustments are made to the guide wheel equipment.
  - c. The load on the vehicle is changed.
  - d. Periodically to ensure that the vehicle is tracking properly.
28. The vehicle must be placed on straight, level, tangent track. See Operation Section - Placing Vehicle On Track.
29. Apply spray paint to the flanges and treads of all guide wheels.
30. Lower and lock all guide wheels in the "rail" position.
31. Operate the vehicle for a short distance at a normal operating speed.
32. The paint should wear evenly around the flanges and treads of all guide wheels. If the paint is worn evenly on all guide wheels, the vehicle and guide wheel equipment is properly aligned.
33. If the paint did not wear evenly, note which guide wheels, flange and / or tread the paint is worn on.
  - a. Repaint the flanges and treads on all guide wheels.
  - b. Operate the vehicle in reverse for a short distance at a normal operating speed.
  - c. Note which guide wheels, flange and / or tread the paint is worn on.

If the paint wore off on the right front flange when traveling forward and then on the left rear flange when traveling in reverse, the vehicle is probably not aligned properly. Have the vehicle frame checked for proper alignment. See Vehicle Check.
34. See Figure 3-8. If the vehicle pulls noticeable to the right when traveling forward, add a shim (4) (part no. 101818) behind the right front outer bearing. Do not use more than two shims on any pivot bearing during the original application of the guide wheel units or three shims on any pivot bearing during field inspection and adjustment.

If the vehicle pulls noticeable to the left when traveling forward, add a shim (5) (part no. 101818) behind the left front outer bearing. Do not use more than two shims on any pivot bearing during the original application of the guide wheel units or three shims on any pivot bearing during field inspection and adjustment.
35. If the vehicle continues to track improperly, repeat the String Lining and Guide Wheel Alignment Procedure.

## Adjustments

### LOCKING MECHANISM - See Figure 3-11

The spring loaded locking mechanism should move freely so it engages itself when the guide wheel is raised or lowered. Periodically inspect this area for wear. When the vehicle is operated in mud or slush, foreign material may get into the locking mechanism, preventing the lock from operating correctly. Remove this foreign material, being careful not to damage the locking mechanism.

The locking mechanism is secured in the "rail" or "highway" position by a lock pin inserted through the pawl handle and the side plates of the locking mechanism. The lock pin must insert easily in either position. If not, re-align.

The button in the lock pin must bush in easily and also pop out when released. The locking balls in the end of the pin must work freely so the pin cannot be removed until the button in the lock pin is pushed in. If the lock pin does not operate properly, replace the pin.

1. Place the vehicle on straight, level track. Place the automatic transmission in "Park" or manual transmission in "Neutral". Apply the parking brake. Stop the engine.

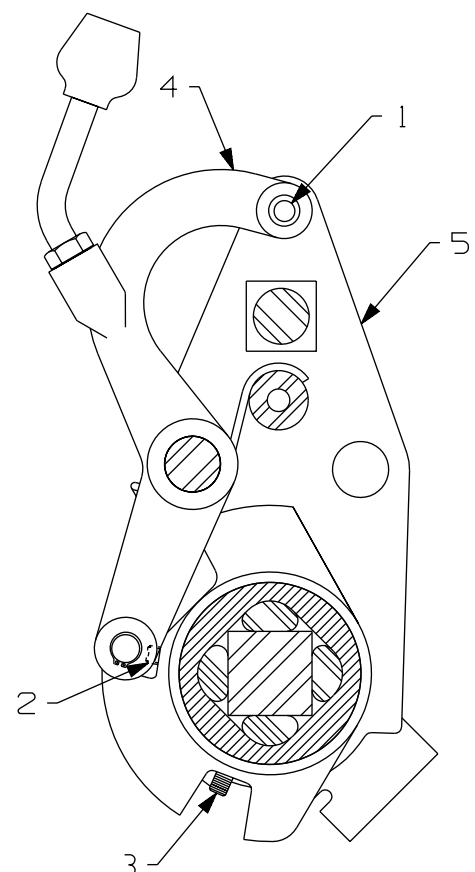
### Rail Position Adjustment

2. Lower and lock all four guide wheels in the "rail" position.
3. If the lock pin (1) cannot be inserted or is hard to insert, re-align the locking pawl.
4. To re-align, adjust the set screw (2) so the hole in the pawl handle (4) aligns with the holes in the side plates (5). Turn the screw clockwise to move the hole in the pawl handle towards the vehicle. Turn the screw counter-clockwise to move the hole in the pawl handle away from the vehicle.

### Highway Position Adjustment

5. Raise and lock all four guide wheels in the "highway" position.
6. If the lock pin (1) cannot be inserted or is hard to insert re-align the locking pawl.
7. To re-align, adjust the set screw (3) so the hole in the pawl handle (4) aligns with the holes in the side plates (5). Turn the screw clockwise to move the hole in the pawl handle towards the vehicle. Turn the screw counter-clockwise to move the hole in the pawl handle away from the vehicle.

FIGURE 3-11  
LOCKING MECHANISM

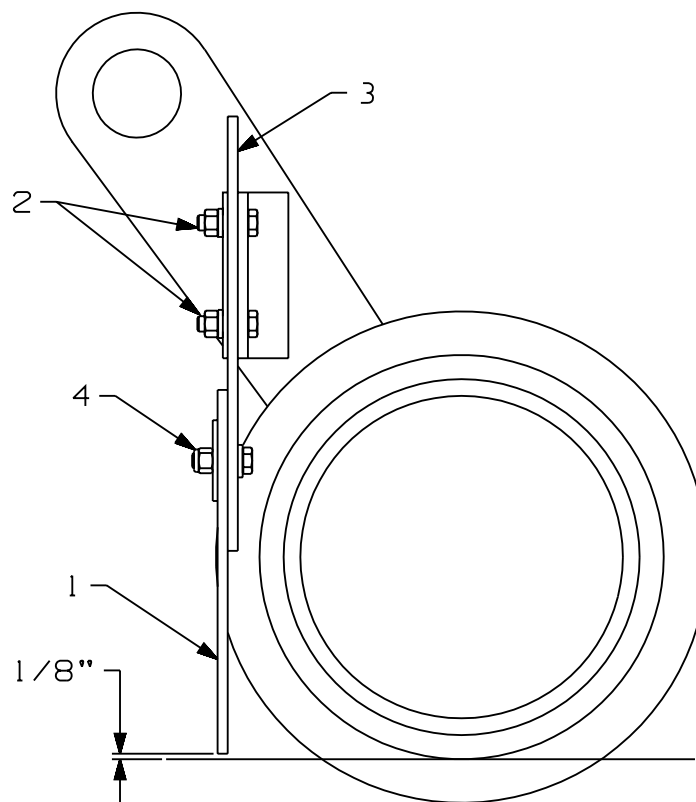


## Guide Wheel Equipment Adjustment

### RAIL SWEEP - See Figure 3-12

1. Place the vehicle on straight, level track. Place the automatic transmission in "Park" or manual transmission in "Neutral". Apply the parking brake. Stop the engine.
2. Lower and lock all four guide wheels in the "rail" position, the rail sweeps are attached to the wheel arm and will lower to the rail when the guide wheels are lowered.
3. The rubber sweep (1) should clear the top of the rail by 1/8 inch (3.2 mm). If not, adjustment is necessary.
4. Loosen the two cap screws (2). Move the rail sweep bracket (3) until the rail sweep clears the top of the rail by 1/8 inch (3.2 mm). Re-tighten the cap screws.
5. If the rubber sweep (1) is worn and can not be lowered, remove the two cap screws (4). Relocate the cap screws in the next upper set of holes in the rubber sweep (1). Then adjust the sweep. See Step 4.
6. If the rubber sweep (1) is worn and in the last, upper set of holes and can not be lowered, replace the rubber sweep.

FIGURE 3-12  
RAIL SWEEP



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**SECTION 4 - MAINTENANCE  
TABLE OF CONTENTS**

**Maintenance Schedule**

MAINTENANCE SCHEDULE..... 4 - 2

**Waste Disposal**

WASTE DISPOSAL ..... 4 - 3

**Lubrication**

RAIL PILOT UNIT LUBRICATION ..... 4 - 4  
RE-PACKING GUIDE WHEEL BEARINGS ..... 4 - 5

**Vehicle Wheels**

WHEEL REPLACEMENT..... 4 - 6  
TIRE REPLACEMENT ..... 4 - 6

**Guide Wheels**

ALLOWABLE WEAR - 078024K STEEL WHEEL WITH RUBBER TREAD..... 4 - 7  
ALLOWABLE WEAR - 072894K STEEL GUIDE WHEEL ..... 4 - 8  
REMOVAL / INSTALLATION ..... 4 - 9  
REPLACING RUBBER TREAD ..... 4 - 12  
GUIDE WHEEL CHECK..... 4 - 13  
    Flange Run Out..... 4 - 14  
    Tread Run Out ..... 4 - 14

**Locking Mechanism**

LOCKING MECHANISM ..... 4 - 15

**Pivot Bearings**

PIVOT BEARINGS..... 4 - 15

**Rubber Cord Replacement**

RUBBER CORD REPLACEMENT..... 4 - 15

**Bolt Torque Requirements**

BOLT TORQUE REQUIREMENTS ..... 4 - 15

## Maintenance Schedule



■ **RE-TORQUE VEHICLE WHEEL LUG NUTS, WHEEL SPACER LUG NUTS AND GUIDE WHEEL LUG NUTS AFTER FIRST 50 MILES OF OPERATION. THEREAFTER TORQUE WHEEL NUTS ACCORDING TO RECOMMENDED MAINTENANCE SCHEDULE. FAILURE TO HEED THIS WARNING COULD RESULT IN SEVERE BODILY INJURY.**

### Daily:

1. Inspect both front and rear rail pilot units for damaged or missing parts.
2. Note the amount of effort required to lower and raise the guide wheels. Effort required should be about the same for each guide wheel. The rear guide wheels, which are locked in the rail position first, should be somewhat easier to lower.
3. Check the locking mechanism for ease of operation. The lock pins should never be able to be pulled out unless the button on the "T" end is pushed in. The button in the lock pin must push in easily and pop out when released. The locking balls in the end of the pin must work freely so the pin cannot be removed until the button in the lock pin is depressed. If the lock pin does not operate properly, replace the lock pin.
4. When the vehicle is operated on the track, listen for unusual noises. Unusual noises may indicate incorrectly lowered guide wheels, or damaged or missing parts. Pay attention to the quality of the ride. Check alignment if the vehicle crowds one side of the track instead of floating from side to side. See Adjustment - Guide Wheel Equipment Alignment Procedure.

4

### Weekly:

1. Check guide wheel equipment alignment. See Adjustments Section, Guide Wheel Equipment Alignment Procedure - Vehicle Track Test.
2. Inspect guide wheel tread and flanges for wear or damage. See Maintenance - Guide Wheel Allowable Wear.
3. Spin each guide wheel by hand, checking for ease of rotation or excessive play. If the guide wheel does not rotate properly, the bearings and spindle may be damaged. Replace the bearing/spindle assembly if necessary.
4. Inspect vehicle wheels, studs, lug nuts and tires for wear, damage, cuts, etc.
5. Check vehicle tires for correct inflation pressure. Operate at the tire manufacturer's recommended maximum pressure printed on the sidewalls of the tires or the wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower.
6. Check rail pilot unit pivot bearings for tightness.
7. Check all bolts for tightness. See Appendices, Appendix A - Bolt Torque Requirements Chart.

## Maintenance Schedule

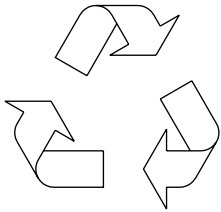
### At 50 Vehicle Miles (80 Vehicle km):

1. Torque wheel spacer lug nuts, vehicle wheel lug nuts and guide wheel lug nuts to the recommended specifications. See the decal attached to the vehicle wheel for the recommended wheel bolt torque specifications. Thereafter refer to the wheel manufacturer's wheel torque specifications.

### Every 2000 Track Miles (3200 Track km):

1. Lubricate rail pilot unit locations provided with grease fittings. See Lubrication.
2. Lubricate the locking mechanism and other pivot points with light oil or a lubricating spray.
3. Torque guide wheel lug nuts to 75 ft lbs (103 N-m).

## Waste Disposal



Dispose of waste properly. Improper disposal of waste can threaten the environment. The operation and maintenance of Harsco Track Technologies equipment may involve the use of such items as hydraulic oil, engine oil, fuel, coolant, brake fluid, filters, batteries, etc.

Use leak proof containers when draining fluids. Do not pour waste onto the ground, down a drain, or into any water source. Inquire on the proper way to recycle or dispose of waste according to applicable Federal, State and/or local regulations.



## Lubrication

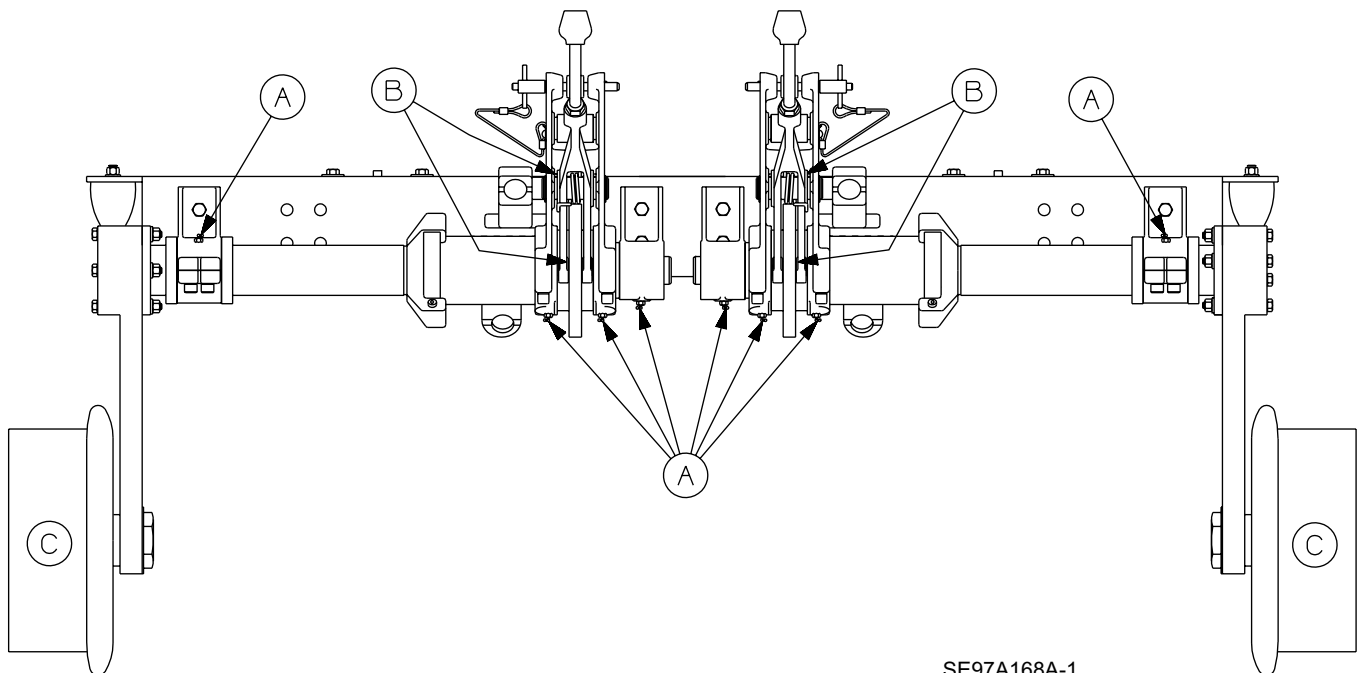
Lubricate the guide wheel equipment every 2000 track miles (3200 track km) maximum or each time the vehicle is serviced.

### RAIL PILOT UNIT LUBRICATION - See Figure 4-1

1. Apply the vehicle parking brake. Stop the engine.
2. Lubricate all grease fittings (A) using Mobil Special Moly, or equivalent.
3. Lubricate the locking mechanism and other pivot points with a light weight oil or a lubricating spray.
4. Re-pack the guide wheel bearings (C) every 10,000 track miles or at least once every two years, which ever occurs first. See Re-packing Guide Wheel Bearings.

4

FIGURE 4-1  
RAIL PILOT UNIT LUBRICATION DIAGRAM



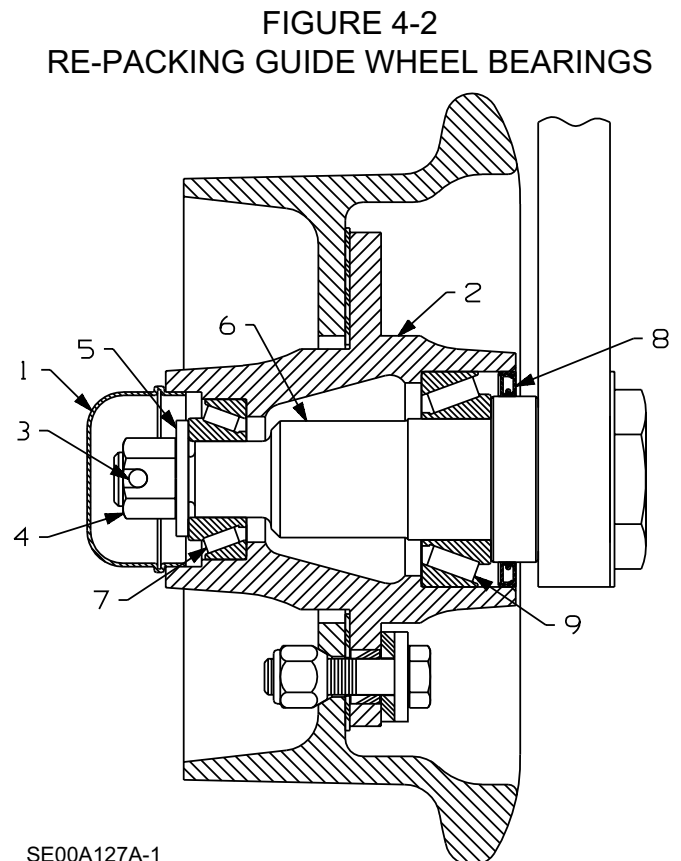
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## Lubrication

### RE-PACKING GUIDE WHEEL BEARINGS - See Figure 4-2

Re-pack the guide wheel bearings every 10,000 track miles or at least once every two years, whichever occurs first.

1. Place the vehicle automatic transmission in "Park" or manual transmission in "Neutral". Apply the parking brake. Stop the engine.
2. Remove hub cap (1) from hub (2). Remove cotter pin (3), castle nut (4) and spindle washer (5) from spindle (6).
3. Remove the wheel and hub (2) from spindle (6). Remove the outer bearing cone (7) from hub (2). Remove grease seal (8) and inner bearing cone (9) from hub (2).
4. Clean all components of grease.
5. Inspect spindle (6), bearing cones and cups (7 & 9) for nicks, gouges and wear. If any of these are evident, replace the component.
6. Replace grease seal (8) with a new grease seal. Coat the spindle surface, grease seal surface, both bearing cup surfaces, pack both bearing cups and fill hub cavity 1/2 full (50%) using Mobile #77 wheel bearing grease, or equivalent.
7. Install the inner bearing cup (9) and new grease seal (8) in hub (2). Install the outer bearing cup (7) in hub (2).
8. Slide the wheel and hub (2) on spindle (6). Secure the hub to the spindle re-using spindle washer (5) and castle nut (4).
9. Tighten the castle nut until a drag is felt when the guide wheel is rotated. Then back the castle nut off one flat (1/6 revolution). Secure the castle nut using a new cotter pin (3).
10. Install hub cap (1) in the hub (2).



## Vehicle Wheels

### WHEEL REPLACEMENT



- **USE REPLACEMENT WHEEL(S) AS RECOMMENDED IN THE HARSCO TRACK TECHNOLOGIES HY-RAIL® VEHICLE SPECIFICATIONS MANUAL. FAILURE TO COMPLY COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

Use replacement wheel rim(s) as recommended in the Harsco Track Technologies HY-RAIL® Vehicle Specifications Manual to ensure correct vehicle wheel spacing and accurate guide wheel load. The wheels and tires should be static balanced or balanced after installation on the vehicle for the best results. Torque vehicle wheel lug nuts to recommended specifications. See the decal attached to the vehicle wheel for the recommended wheel bolt torque specifications.

### TIRE REPLACEMENT

4



- **USE REPLACEMENT TIRES WITH THE SAME ROLLING RADIUS, TREAD WIDTH, PLY RATING, AND LOAD RATING AS RECOMMENDED IN THE HARSCO TRACK TECHNOLOGIES HY-RAIL® VEHICLE SPECIFICATIONS MANUAL. FAILURE TO COMPLY COULD RESULT IN BODILY INJURY AND/OR PROPERTY DAMAGE.**

Bias ply tires are the recommended tire for use on vehicles equipped with guide wheel equipment. Radial tires may influence vehicle tracking. Performance of vehicles equipped with radial tires is the responsibility of the end user.

Replacement tires must have the same rolling radius, tread width, ply rating, and load rating as recommended in the Harsco Track Technologies HY-RAIL® Vehicle Specifications Manual. Using tires of equal diameter will help keep the speedometer reading and the guide wheel load accurate. Tires must have a minimum 5-1/2 inches of tread width.

Inflate tires to the tire manufacturer's recommended maximum pressure printed on the sidewalls of the tires or the wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower. The wheels and tires should be static balanced or balanced after installation on the vehicle for the best results. Torque vehicle wheel lug nuts to recommended specifications. See the decal attached to the vehicle wheel for the recommended wheel bolt torque specifications.

After installing new tire(s) on the vehicle, check rail pilot unit wheel arm vertical height and guide wheel load. See the Adjustment Section - Guide Wheel Equipment Alignment Procedure.

## Guide Wheels

### ALLOWABLE WEAR - 078024K STEEL WHEEL WITH RUBBER TREAD



■ REPLACE ANY GUIDE WHEEL IMMEDIATELY WHICH SHOWS DAMAGE AND/OR HAS WORN MORE THAN THE ALLOWABLE LIMITS. FAILURE TO COMPLY COULD RESULT IN DERAILMENT OF THE VEHICLE, AND SEVERE BODILY INJURY.

1. Tools needed: Harsco Track Technologies wheel caliper (M019889), or equivalent.
2. See Figure 4-3. Measure the wheel flange at position "A" with the wheel caliper.

The minimum allowable flange dimension is: Position "A".....1/4 inch (6.4 mm)

If the wheel flange dimension is less than the allowable limit, replace the wheel immediately.

3. See Figure 4-3. Measure the wheel tread at positions "B" and "C" with the wheel caliper.

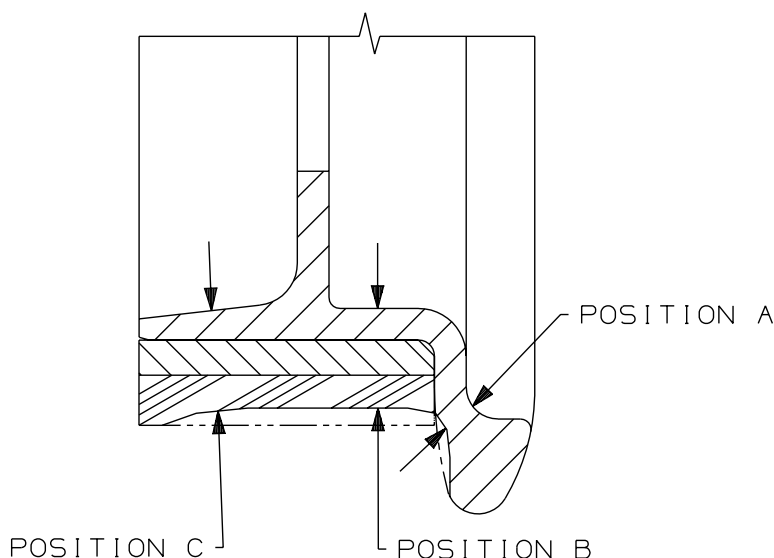
The minimum allowable tread dimensions are: Position "B".....1 inch (25.4 mm)  
Position "C" .....1 inch (25.4 mm)

If any of the guide wheel tread dimensions are less than the allowable limits, replace the wheel immediately.

4. The rubber tread must not have gouges. The entire wheel and flange must not have any gouges or cracks. If any of these are evident, replace the wheel immediately.

FIGURE 4-3

### ALLOWABLE WEAR - 078024K STEEL GUIDE WHEEL WITH RUBBER TREAD GROUP



## Guide Wheels

### ALLOWABLE WEAR - 072894K STEEL GUIDE WHEEL



■ REPLACE ANY GUIDE WHEEL IMMEDIATELY WHICH SHOWS DAMAGE AND/OR HAS WORN MORE THAN THE ALLOWABLE LIMITS. FAILURE TO COMPLY COULD RESULT IN DERAILMENT OF THE VEHICLE, AND SEVERE BODILY INJURY.

1. Tools needed: Harsco Track Technologies wheel caliper (M019889), or equivalent.
2. See Figure 4-4. Measure the wheel flange at position "A" with the wheel caliper.

The minimum allowable flange dimension is: Position "A".....1/4 inch (6.4 mm)

If the wheel flange dimension is less than the allowable limit, replace the wheel immediately.

4

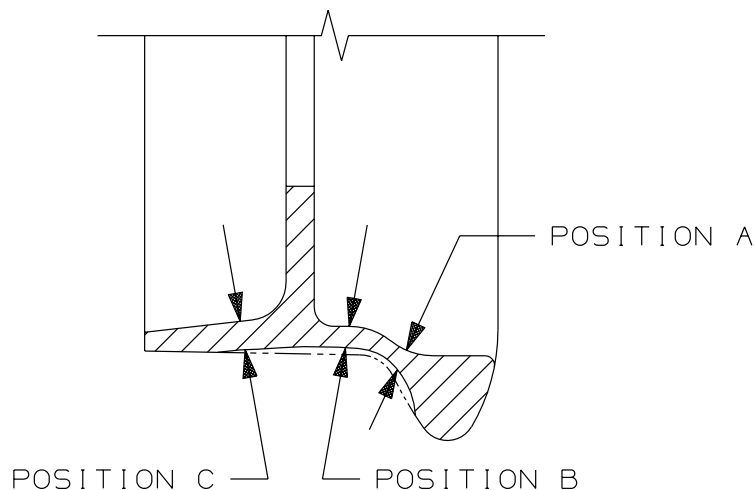
3. See Figure 4-4. Measure the wheel tread at positions "B" and "C" with the wheel caliper.

The minimum allowable tread dimensions are: Position "B".....1/4 inch (6.4 mm)  
Position "C" .....1/4 inch (6.4 mm)

If any of the guide wheel tread dimensions are less than the allowable limits, replace the wheel immediately.

4. The entire wheel must not have any gouges or cracks. If any of these are evident, replace the wheel immediately.

FIGURE 4-4  
ALLOWABLE WEAR - 072894K STEEL GUIDE WHEEL GROUP



## Guide Wheels

### REMOVAL / INSTALLATION - 072894K STEEL GUIDE WHEEL - 078024K STEEL GUIDE WHEEL WITH RUBBER TREAD

**REMOVAL** - See Figure 4-5

#### Guide Wheel Removal

1. Remove guide wheel, steel (1) or rubber tread (2) and insulating washer (14) from hub (12).
2. Save the six 1/2 inch cap screws (8), steel washers (9), insulating washers and bushings (10), and cone nuts (11), they will be re-used.
3. Inspect the guide wheel, cap screws, cone nuts, washers and bushings for damage or wear. If any of these are conditions evident, replace the component.

#### Hub Removal

4. Remove hub cap (13) from hub (12). Remove cotter pin (19) from spindle (6).
5. Remove castle nut (18) and spindle washer (17). Pull hub (12) off spindle (6).

#### Hub And Bearings Disassembly

6. Remove grease seal (7) from the hub. Remove inner (15) and outer (16) bearing cones from the hub.
7. Inspect all the hub components, including the inner and outer bearing cones and cups, for damage or wear. If any of these are evident, replace the component.

#### Spindle Removal

8. Remove spindle nut (5) and washer (4) from spindle (6). Remove the spindle from the pilot unit wheel arm. Save key (3), it will be re-used.
9. Inspect all the spindle components for damage or wear. If any of these are evident, replace the component.

## Guide Wheels

### REMOVAL / INSTALLATION - 072894K STEEL GUIDE WHEEL - 078024K STEEL GUIDE WHEEL WITH RUBBER TREAD

**INSTALLATION** - See Figure 4-5

#### Spindle Installation

1. Install spindle (6) and key (3) in the pilot unit wheel arm. Install spindle washer (4) and spindle nut (5). Tighten the spindle nut securely. Then bend the spindle washer over on one flat of the spindle nut.

#### Hub and Bearings Assembly

*Note: Hub, bearing cones, bearing cups and grease seal must be packed with grease before assembly. See Re-packing Guide Wheel Bearings.*

4

2. If the inner (15) and outer (16) bearing cups were removed, press them in hub (12). Install inner (15) and outer (16) bearing cones in the hub.
3. Press grease seal (7) in the hub. Grease seal should be flush with the hub surface.

#### Hub Installation

4. Slide the hub on the spindle. Secure the hub using the spindle washer (17) and 3/4 inch castle nut (18).
5. Tighten the castle nut until a drag is felt when the guide wheel is rotated. Then back the castle nut off one flat (1/6 revolution).
6. Secure the castle nut using a new cotter pin (19). Install hub cap (13) on hub (12).

#### Guide Wheel Installation

7. Bolt the wheel, steel (1) or rubber tread (2) and insulating washer (14) to the hub (12) using six 1/2 x 2 inch hex bolts (8), steel washers (9), insulating washers, bushings (10) and cone nuts (11).

*Note: If the cone nuts have been removed more than twice, or if the nylon inserts on the cone nuts are damaged, use new cone nuts.*

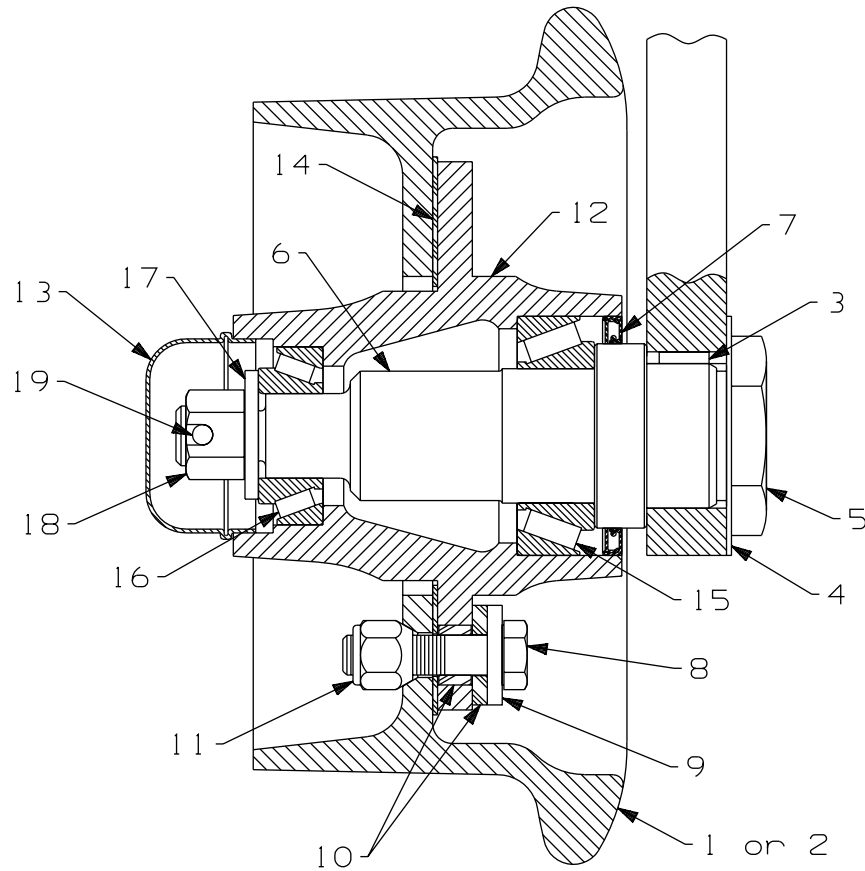
8. Tighten the cone nuts only enough to keep the guide wheels from shifting. The guide wheel flange and tread run out must be checked. Torquing the cone nuts will not necessarily center the guide wheel on the hub. The run out must be checked. See Flange and Tread Run Out.
9. After obtaining the correct run out, torque the six wheel bolts to 75 ft lbs (103 N-m). Recheck the guide wheel flange and tread run out.

### Guide Wheels

#### REMOVAL / INSTALLATION - 072894K STEEL GUIDE WHEEL - 078024K STEEL GUIDE WHEEL WITH RUBBER TREAD

*Note: Flange and tread run out should be checked whenever the guide wheel is removed from the hub and re-installed, or whenever a new guide wheel is applied.*

FIGURE 4-5  
REMOVAL / INSTALLATION  
072894K STEEL GUIDE WHEEL  
078024K STEEL GUIDE WHEEL WITH RUBBER TREAD



SE00A128A-1



## Guide Wheels

### REPLACING THE RUBBER TREAD - 078024K STEEL WHEEL WITH RUBBER TREAD ONLY

When the rubber tread of a steel guide wheel becomes cut or worn and the flange is in good condition, a new rubber tread with steel liner can be installed.

1. Remove the guide wheel from the hub. See Guide Wheels - Removal / Installation.
2. Remove the used rubber tread and steel liner from the guide wheel. This can be done by carefully cutting through the rubber tread and steel liner, or split the steel liner by drilling a 13/32 inch diameter hole in the steel liner, parallel to the guide wheel unit axle.
3. To install the new rubber tread and steel liner will require a large shop press. Lubricate the inside of the new rubber tread liner and the mating portion of the guide wheel. Press the steel liner on.
4. After pressing the liner on, install the guide wheel on the hub. See Guide Wheels - Removal / Installation.
5. Check the guide wheel for run out. See Flange and Tread Run out.

## Guide Wheels

### GUIDE WHEEL CHECK

Guide wheels which do not run true on the tread and flange will vibrate and give a rough ride. If the vehicle vibrates and gives a rough ride on track, there may be foreign matter (dirt, rust, paint, etc.) between the wheel and hub, the spindle bearings may be worn, or the tread and flange of the wheel may be worn or damaged, causing a wobbling sensation. On wheels with rubber tread, there may be foreign matter lodged between the mating surfaces of the steel flange and the rubber tread, giving the same sensation.

1. Verify that the six lug nuts are torqued properly to 75 ft lbs (103 N-m). Tighten if necessary.
2. Track test the vehicle to verify that the vibrations were not caused by loose guide wheels. If track testing shows that the vibrations persist, go on to the following steps.
3. Check the spindle bearing by grasping the spindle and working it from side to side. If there is excessive play in the spindle bearing, the bearings are loose or worn. Disassemble, clean and check the bearings (cups and cones) and spindle for worn or damaged components. If necessary, replace components. Pack guide wheel bearings and re-assemble. See Re-packing Guide Wheel Bearings.
4. Check for foreign material on the mating surfaces of the guide wheel and the hub. Remove any foreign material on these surfaces.
5. Reinstall the guide wheel onto the spindle and hub. Torque wheel nuts to 75 ft lbs (103 N-m).
6. Track test the vehicle to verify whether the vibrations were caused by worn spindle bearings or foreign material between guide wheel/flange mounting surfaces.

If track testing shows that the vibrations persist, check the flange and tread run out.

## Guide Wheels

### GUIDE WHEEL CHECK

#### Flange Run out

7. Clamp a dial indicator to the guide wheel arm so the plunger is against the side of the flange which faces the rail. Turn the guide wheel one complete rotation. Indicated run out should not exceed .030".

If the flange run out is within tolerance, check the tread run out.

If the flange run out is greater than recommended:

- a. Turn the guide wheel to a different mounting position.
- b. Check for foreign material or damaged insulating washer between the hub and guide wheel.
- c. Check all wheel hardware. Tighten to recommended torques.
- d. Check the guide wheel bearings. Disassemble, clean and check the bearings (cups and cones) and spindle for worn or damaged components. If necessary, replace components. Pack guide wheel bearings and re-assemble. See Re-packing Guide Wheel Bearings.

4

#### Tread Run out

8. Move the dial indicator so the plunger is against the guide wheel tread. Turn the guide wheel one complete rotation. Indicated run out should not exceed .010".

If the tread run out is greater than recommended:

- a. Turn the guide wheel to a different mounting position.
- b. Check for foreign material or damaged insulating washer between the hub and guide wheel.
- c. Check all wheel hardware. Tighten to recommended torques.
- d. Check the guide wheel bearings. Disassemble, clean and check the bearings (cups and cones) and spindle for worn or damaged components. If necessary, replace components. Pack guide wheel bearings and re-assemble. See Re-packing Guide Wheel Bearings.

If track testing shows that the vibrations persist, the wheel may be sprung or bent. Replace the wheel.

## Locking Mechanism

The spring loaded locking mechanism should move freely so that it engages itself when the guide wheel is raised or lowered. Periodically inspect this area for worn or damaged parts. When the vehicle is operated in muddy or slushy conditions, foreign material may get into the locking mechanism, preventing the lock from operating correctly. Remove this foreign material, being careful not to damage the locking mechanism.

The locking mechanism is secured in the "rail" or "highway" position by a lock pin inserted through the pawl handle and side plates of the locking mechanism. The lock pin must insert easily in either position. If not, re-adjust. See Adjustment Section - Locking Mechanism. The button in the locking pin must push in easily and also pop out when released. The locking balls in the end of the pin must work freely so the pin cannot be removed until the button in the locking pin is pushed in. If the lock pin does not operate properly, replace the pin.

## Pivot Bearings

The inner and outer pivot bearings on the rail pilot unit should be checked carefully at weekly intervals for wear. To check the bearings, apply the parking brake. The guide wheels must be raised to the "highway" position.

Insert a pry bar between the cross channel and the pivot. Check for looseness. The pivot bearings are non-adjustable. If the pivot bearings are worn, replace them.

## Rubber Cord Replacement

See Adjustment Section, Figure 3-6. The end of the load adjustment stud, behind the locking pawl mechanism, should not extend more than 1/4 inch (6.4 mm) beyond and not more than 1/8 inch (3.2 mm) within the face of the trunnion nut.

If the adjusting stud extends more than 1/4 inch (6.4 mm) beyond the face of the trunnion nut, it may be necessary to replace the rubber cords in the torque coupling. See Service Data Sheet no. 400

## Bolt Torque Requirements



- **CHECK ALL BOLTS AND NUTS PERIODICALLY, AND KEEP THEM TIGHTENED TO TORQUE SPECIFIED IN APPENDICES SECTION - APPENDIX A. IF BOLT REPLACEMENT BECOMES NECESSARY, REPLACE WORN BOLT WITH EQUAL GRADE BOLT. FAILURE TO COMPLY COULD RESULT IN BODILY INJURY, AND/OR PROPERTY DAMAGE.**

See Appendices Section - Appendix A, for bolt torque requirements table and grade identification markings used by manufacturers.



**SECTION 5 - TROUBLESHOOTING  
TABLE OF CONTENTS**

**Troubleshooting Guide Wheel Equipment**

TROUBLESHOOTING GUIDE WHEEL EQUIPMENT..... 5 - 2

**Troubleshooting Guide Wheel Equipment**

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
<p>Extreme effort required to unlock and lower or raise guide wheels.</p>	<p>Components bent, broken, etc.</p> <p>Foreign material (mud, slush, dirt, etc;) in torque coupler.</p> <p>Pivot bearings are dirty and/or not lubricated.</p>	<p>Replace components.</p> <p>Clean.</p> <p>Disassemble and clean. Lubricate.</p>
<p>Extreme effort required to lock or unlock guide wheels in the "rail" position.</p>	<p>Vehicle incorrectly loaded or overloaded.</p> <p>Vehicle tires under-inflated.</p> <p>Rail pilot unit wheel arm height and/or guide wheel load adjusted incorrectly.</p>	<p>Redistribute or remove some of the load.</p> <p>Check pressure. Inflate if low. Do not exceed tire manufacturer's recommended maximum pressure printed on the sidewalls or wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower.</p> <p>Re-adjust. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.</p>

**Troubleshooting Guide Wheel Equipment**

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
Minimal effort required to lock or unlock guide wheels in the "rail" position.	Vehicle tires are over-inflated.	Check pressure. If too high, deflate to the tire manufacturer's recommended maximum pressure printed on the sidewalls or wheel manufacturer's recommended maximum pressure, stamped on the wheel, whichever is lower.
Vehicle pulls noticeably to the left or right when on track.	Rail pilot unit wheel arm height and/or guide wheel load adjusted incorrectly.	Re-adjust. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.
Vehicle pulls noticeably to the left or right when on track.	Vehicle loaded heavy on one side.	Move load to center of vehicle.
Vehicle pulls noticeably to the left or right when on track.	Steering lock not engaged.	Engage the steering lock.
Vehicle pulls noticeably to the left or right when on track.	Vehicle wheels not aligned with steering lock when engaged.	Re-align. See Adjustment Section - Guide Wheel Equipment Adjustment Procedure.
Vehicle pulls noticeably to the left or right when on track.	Guide wheels are not aligned with vehicle.	Re-align. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.
Vehicle pulls noticeably to the left or right when on track.	Vehicle front tires out of alignment.	Re-align front tires.
Vehicle derails.	Rail pilot units, vehicle axle(s), etc. not aligned with vehicle frame.	Check alignment. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.



**Troubleshooting Guide Wheel Equipment**

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
<p>Vibration felt in the vehicle when traveling on track.</p>	<p>Rail pilot unit mounting hardware loose.</p> <p>Guide wheel spindle bearings worn.</p> <p>Guide wheel worn or damaged.</p> <p>Rail pilot unit pivot bearings worn.</p> <p>Vehicle rim bent.</p> <p>Vehicle tires out of balance.</p> <p>Wheel spacer lug nuts and or wheel lug nuts loose.</p>	<p>Tighten all bolts to recommended torque.</p> <p>Replace bearings.</p> <p>Replace guide wheel.</p> <p>Check inner and outer pivot bearings. See Maintenance Section - Pivot Bearings.</p> <p>Replace rim. See Maintenance Section - Vehicle Wheels.</p> <p>Balance tires. See Maintenance Section - Tire Replacement.</p> <p>Torque wheel spacer lug nuts and vehicle lug nuts to recommended specifications. See maintenance Section.</p>
<p>Unusual or excessive noise when traveling on track.</p>	<p>Guide wheel spindle bearings worn.</p> <p>Rail pilot unit flanging hard to the right or left.</p>	<p>Replace bearings.</p> <p>Re-align. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.</p>

**Troubleshooting Guide Wheel Equipment**

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
Vibration felt in the vehicle when traveling on road.	Rail pilot unit mounting hardware loose.	Tighten all bolts to recommended torque.
	Guide wheels are not locked and secured in "highway" position.	STOP IMMEDIATELY. Make sure all four guide wheels are locked and secured in "highway" position.
	Guide wheel "highway" set screws are adjusted incorrectly.	Re-adjust. Wheel arms should be tight against rubber bumper on the cross tube. If rubber bumper is worn, replace.
	Vehicle wheel bent.	Replace wheel. See Maintenance Section - Vehicle Wheels.
	Vehicle tires out of balance.	Balance tires. See Maintenance Section - Tire Replacement/Balancing.
	Wheel spacer lug nuts and or vehicle lug nuts loose.	Torque wheel spacer lug nuts and vehicle lug nuts to recommended specifications. See maintenance Section.

**Troubleshooting Guide Wheel Equipment**

PROBLEM	PROBABLE CAUSE	POSSIBLE REMEDY
<p>Guide wheel "rail" overload set screws bottomed out.</p>	<p>Vehicle incorrectly loaded or overloaded.</p>	<p>Redistribute or remove some of the load.</p>
	<p>Vehicle tires under-inflated.</p>	<p>Check pressure. Inflate if low. Do not exceed tire manufacturer's recommended maximum pressure printed on the sidewalls or wheel manufacturer's recommended maximum pressure stamped on the wheel, whichever is lower.</p>
	<p>Guide wheel arm height and/or guide wheel load adjusted incorrectly.</p>	<p>Re-adjust. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.</p>
	<p>"Rail" overload set screws adjusted incorrectly.</p>	<p>Re-adjust. See Adjustment Section - Guide Wheel Equipment Alignment Procedure.</p>
	<p>Rubber cords in torque coupler worn.</p>	<p>Have rubber cords replaced.</p>
	<p>Foreign material (mud, slush, dirt, etc;) in torque coupler.</p>	<p>Clean.</p>

**SECTION 6 - APPENDICES  
TABLE OF CONTENTS**

**Appendix A - Conversion Tables**

BOLT TORQUE REQUIREMENTS - STANDARD-TYPE FASTENERS . . . . . 6 - 2  
BOLT TORQUE REQUIREMENTS - SERRATED-TYPE FLANGE FASTENERS . . . 6 - 3  
METRIC BOLT AND CAP SCREW TORQUE VALUES . . . . . 6 - 4  
INCH TO MILLIMETERS . . . . . 6 - 6  
FEET TO METERS . . . . . 6 - 6  
POUNDS TO KILOGRAMS . . . . . 6 - 7  
POUNDS PER SQUARE INCH TO BAR . . . . . 6 - 7  
POUNDS PER SQUARE INCH TO KILOPASCALS . . . . . 6 - 7  
FAHRENHEIT TO CELSIUS (Centigrade). . . . . 6 - 8  
MILES PER HOUR TO KILOMETERS PER HOUR . . . . . 6 - 9  
GALLONS TO LITERS. . . . . 6 - 9

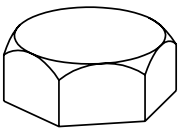
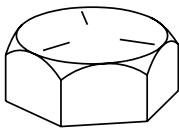
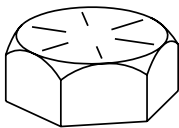
**Appendix B - Service Data Sheets**

SERVICE DATA NO. SD 384 - 135741 EASY LIFT CONVERSION GROUP  
SERVICE DATA NO. SD 563 - WHEEL STOP REPLACEMENT PARTS  
SERVICE DATA NO. SD 721 - 169040 SHOCK ABSORBER SERVICE GROUP  
SERVICE DATA NO. SD 729 - WHEEL FLANGE AND GUIDE WHEEL ASSEMBLY  
SERVICE DATA NO. SD 738 - 170776 VEHICLE REAR WHEEL SPACER  
SERVICE GROUP  
SERVICE DATA NO. SD 744 - 172461 WHEEL FLANGE BOLT SERVICE GROUP  
SERVICE DATA NO. SD 772 - 180007 REAR DISC LOCK WHEEL NUT  
SERVICE GROUP  
SERVICE DATA NO. SD 797 - VEHICLE REAR WHEEL SPACERS INSPECTION  
SERVICE DATA NO. SD 824 - GUIDE WHEEL INSPECTION  
SERVICE DATA NO. SD 854 - WHEEL AND TIRE VIBRATION INFORMATION

**Appendix A**

**FIGURE 6-1  
BOLT TORQUE REQUIREMENTS TABLE  
STANDARD-TYPE FASTENERS**

The torque values listed below are for standard-type fasteners only. The torque values listed are based on wet (lubricated) and dry conditions. The torque values for 1/4 and 5/16 inch size fasteners are listed in in-lbs torque only. The torque values for all other size fasteners are listed in ft-lbs torque with metric equivalents in parentheses. Use lower grade torque values if bolt and nut have different SAE grades. Manufacturer's SAE grade markings may vary.

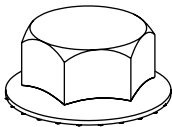
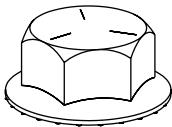
SAE Grade	1 or 2				5				8			
Fastener Standard SAE Grade Markings												
Fastener Body Size Inch Thrd	Torque				Torque				Torque			
	Wet in-lb		Dry in-lb		Wet in-lb		Dry in-lb		Wet in-lb		Dry in-lb	
1/4 - 20	49		65		75		100		107		142	
1/4 - 28	56		74		86		114		122		162	
5/16 - 18	103		137		157		208		220		293	
5/16 - 24	113		150		173		230		244		325	
Fastener Body Size Inch Thrd	Torque				Torque				Torque			
	Wet ft-lb	(kg-m)	Dry ft-lb	(kg-m)	Wet ft-lb	(kg-m)	Dry ft-lb	(kg-m)	Wet ft-lb	(kg-m)	Dry ft-lb	(kg-m)
3/8 - 16	15	(2.1)	20	(2.8)	23	(3.2)	31	(4.2)	32	(4.4)	43	(5.9)
3/8 - 24	17	(2.4)	23	(3.1)	26	(3.6)	35	(4.8)	37	(5.1)	49	(6.8)
7/16 - 14	24	(3.3)	32	(4.4)	37	(5.1)	49	(6.8)	52	(7.2)	69	(9.6)
7/16 - 20	27	(3.7)	36	(5.0)	42	(5.8)	56	(7.7)	58	(8.0)	77	(10.7)
1/2 - 13	39	(5.4)	52	(7.2)	57	(7.9)	76	(10.5)	80	(11.0)	106	(14.7)
1/2 - 20	41	(5.7)	55	(7.5)	64	(8.9)	85	(11.8)	90	(12.4)	120	(16.5)
9/16 - 12	53	(7.3)	71	(9.7)	82	(11.3)	109	(15.1)	115	(15.9)	153	(21.1)
9/16 - 18	59	(8.2)	78	(10.8)	91	(12.6)	121	(16.7)	129	(17.8)	172	(23.7)
5/8 - 11	73	(10.0)	97	(13.4)	113	(15.6)	150	(20.8)	160	(22.1)	213	(29.4)
5/8 - 18	83	(11.5)	110	(15.2)	128	(17.7)	170	(23.5)	180	(24.9)	239	(33.1)
3/4 - 10	129	(17.8)	172	(23.7)	200	(27.7)	266	(36.8)	282	(39.0)	375	(51.8)
3/4 - 16	144	(19.9)	192	(26.5)	223	(30.8)	297	(41.0)	315	(43.6)	419	(57.9)
7/8 - 9	124	(17.1)	165	(22.8)	323	(44.7)	430	(59.4)	454	(62.8)	604	(83.5)
7/8 - 14	138	(19.1)	184	(25.4)	355	(49.1)	472	(65.3)	501	(69.3)	666	(92.1)
1 - 8	188	(26.0)	250	(34.6)	483	(66.8)	642	(88.9)	681	(94.2)	906	(125.2)
1 - 14	210	(29.0)	279	(38.6)	541	(74.8)	720	(99.5)	764	(106.0)	1,016	(140.5)
1-1/8 - 7	266	(36.8)	354	(48.9)	596	(82.4)	793	(109.6)	966	(134.0)	1,285	(177.6)
1-1/8 - 12	297	(41.1)	395	(54.6)	668	(92.4)	888	(122.8)	1,083	(150.0)	1,440	(199.1)
1-1/4 - 7	375	(51.9)	499	(69.0)	841	(116.0)	1,119	(154.6)	1,363	(189.0)	1,813	(250.6)
1-1/4 - 12	415	(57.4)	552	(76.3)	930	(129.0)	1,237	(171.0)	1,509	(209.0)	2,007	(277.5)
1-3/8 - 6	492	(68.0)	654	(90.5)	1,102	(152.0)	1,466	(202.6)	1,787	(247.0)	2,377	(328.6)
1-3/8 - 12	560	(77.4)	745	(103.0)	1,255	(174.0)	1,670	(230.8)	2,034	(281.0)	2,705	(374.0)
1-1/2 - 6	653	(90.3)	868	(120.1)	1,463	(202.0)	1,946	(269.0)	2,371	(328.0)	3,153	(436.0)
1-1/2 - 12	734	(102.0)	976	(135.0)	1,645	(228.0)	2,188	(302.5)	2,668	(369.0)	3,548	(490.6)

**6**

**Appendix A**

FIGURE 6-2  
BOLT TORQUE REQUIREMENTS TABLE  
SERRATED-TYPE FLANGE FASTENERS

The torque values listed below are for serrated-type flange fasteners only. The torque values listed are based on wet (lubricated) and dry conditions. The torque values for all size fasteners are listed in ft-lbs torque with metric equivalents in parentheses. Use lower grade torque values if bolt and nut have different SAE grades. Manufacturer's SAE grade markings may vary.

SAE Grade	1 or 2				5			
Fastener Standard SAE Grade Markings								
Fastener Body Size Inch Thrd	Torque				Torque			
	Wet ft-lb	(kg-m)	Dry ft-lb	(kg-m)	Wet ft-lb	(kg-m)	Dry ft-lb	(kg-m)
1/4 - 20	8	(1.1)	11	(1.5)	11	(1.5)	15	(2.1)
1/4 - 28	9	(1.2)	12	(1.7)	12	(1.7)	16	(2.2)
5/16 - 18	13	(1.8)	17	(2.4)	20	(2.8)	27	(3.7)
5/16 - 24	13	(1.8)	17	(2.4)	32	(4.4)	43	(5.9)
3/8 - 16	23	(3.2)	31	(4.3)	40	(5.5)	53	(7.3)
3/8 - 24	25	(3.5)	33	(4.6)	43	(5.9)	57	(7.9)
7/16 - 14	38	(5.3)	51	(7.1)	55	(7.6)	73	(10.1)
7/16 - 20	40	(5.5)	53	(7.5)	60	(8.3)	80	(11.1)
1/2 - 13	60	(8.3)	80	(11.1)	95	(13.1)	127	(17.6)
1/2 - 20	65	(9.0)	87	(12.0)	100	(13.8)	133	(18.4)
9/16 - 12	78	(10.8)	104	(14.4)	140	(19.4)	187	(25.9)
9/16 - 18	85	(11.8)	113	(15.6)	150	(20.7)	200	(27.7)
5/8 - 11	125	(17.3)	167	(23.1)	190	(26.3)	253	(35.0)
5/8 - 18	135	(18.7)	180	(24.9)	220	(30.4)	293	(40.5)
3/4 - 10	225	(31.1)	300	(41.2)	350	(48.4)	467	(64.6)
3/4 - 16	250	(34.6)	333	(46.1)	400	(55.3)	533	(73.7)
7/8 - 9	350	(48.4)	467	(64.6)	550	(76.1)	733	(101.4)
7/8 - 14	375	(51.9)	500	(69.2)	600	(83.0)	800	(110.6)
1 - 8	480	(66.4)	640	(88.5)	750	(103.7)	1,000	(138.3)
1 - 14	500	(69.2)	666	(92.1)	800	(110.6)	1,066	(147.4)

**Appendix A**

**FIGURE 6-3  
METRIC BOLT AND CAP SCREW TORQUE VALUES**

Do not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically. Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original. Make sure fastener's threads are clean and that thread engagement is properly started. This will help prevent them from failing when tightening.

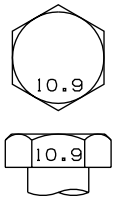
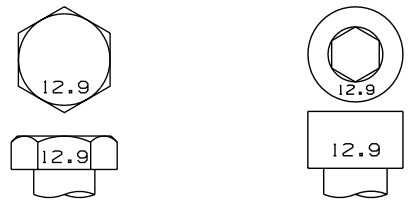
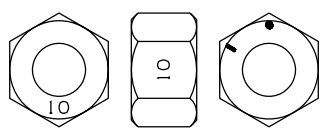
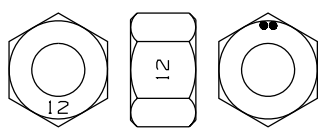
\* Lubricated means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. Dry means plain or zinc plated without any lubrication.

Property Class and Head Markings	4.8				8.8		9.8	
Property Class and Nut Markings	5				10			
Size	Class 4.8				Class 8.8 or 9.8			
	* Lubricated		* Dry		* Lubricated		* Dry	
	N - m	lb - ft	N - m	lb - ft	N - m	lb - ft	N - m	lb - ft
M 6	4.8	3.5	6	4.5	9	6.5	11	8.5
M 8	12	8.5	15	11	22	16	28	20
M10	23	17	29	21	43	32	55	40
M12	40	29	50	37	75	55	95	70
M14	63	47	80	60	120	88	150	110
M16	100	73	125	92	190	140	240	175
M18	135	100	175	125	260	195	330	250
M20	190	140	240	180	375	275	475	350
M22	260	190	330	250	510	375	650	475
M24	330	250	425	310	650	475	825	600
M27	490	360	625	450	950	700	1200	875
M30	675	490	850	625	1300	950	1650	1200
M33	900	675	1150	850	1750	1300	2200	1650
M36	1150	850	1450	1075	2250	1650	2850	2100

**6**

**Appendix A**

**FIGURE 6-4  
METRIC BOLT AND CAP SCREW TORQUE VALUES**

Property Class and Head Markings	<p style="text-align: center;">10.9</p> 				<p style="text-align: center;">12.9</p> 			
Property Class and Nut Markings	<p style="text-align: center;">10</p> 				<p style="text-align: center;">12</p> 			
Size	Class 10.9				Class 12.9			
	* Lubricated		* Dry		* Lubricated		* Dry	
	N - m	lb - ft	N - m	lb - ft	N - m	lb - ft	N - m	lb - ft
M 6	13	9.5	17	12	15	11.5	19	14.5
M 8	32	24	40	30	37	28	47	35
M10	63	47	80	60	75	55	95	70
M12	110	80	140	105	130	95	165	120
M14	175	130	225	165	205	150	260	190
M16	275	200	350	255	320	240	400	300
M18	375	275	475	350	440	325	560	410
M20	530	400	675	500	625	460	800	580
M22	725	540	925	675	850	625	1075	800
M24	925	675	1150	850	1075	800	1350	1000
M27	1350	1000	1700	1250	1600	1150	2000	1500
M30	1850	1350	2300	1700	2150	1600	2700	2000
M33	2500	1850	3150	2350	2900	2150	3700	2750
M36	3200	2350	4050	3000	3750	2750	4750	3500



**Appendix A**

FIGURE 6-5  
INCH TO MILLIMETER CONVERSION TABLE  
1 INCH = 25.4 MILLIMETERS

FRACTIONS	DECIMALS	MILLIMETERS	FRACTIONS	DECIMALS	MILLIMETERS	
	1/64	.016		0.397		
1/32	.031	0.794	33/64	.516	13.097	
	3/64	.047		17/32	.531	13.494
1/16	.063	1.191		35/64	.547	13.891
	5/64	.078		9/16	.563	14.288
3/32	.094	1.984		37/64	.578	14.684
	7/64	.109		19/32	.594	15.081
1/8	.125	2.381		39/64	.609	15.478
	9/64	.141		5/8	.625	15.875
5/32	.156	3.175		41/64	.641	16.272
	11/64	.172		21/32	.656	16.669
3/16	.188	3.572		43/64	.672	17.066
	13/64	.203		11/16	.688	17.463
7/32	.219	4.366		45/64	.703	17.859
	15/64	.234		23/32	.719	18.256
1/4	.250	4.763		47/64	.734	18.653
	17/64	.266		3/4	.750	19.050
9/32	.281	5.159		49/64	.766	19.447
	19/64	.297		25/32	.781	19.844
5/16	.313	5.556		51/64	.797	20.241
	21/64	.328		13/16	.813	20.638
11/32	.344	5.953		53/64	.828	21.034
	23/64	.359		27/32	.844	21.431
3/8	.375	6.350		55/64	.859	21.828
	25/64	.391		7/8	.875	22.225
13/32	.406	6.747		57/64	.891	22.622
	27/64	.422		29/32	.906	23.019
7/16	.438	7.144		59/64	.922	23.416
	29/64	.453		15/16	.938	23.813
15/32	.469	7.541		61/64	.953	24.209
	31/64	.484		31/32	.969	24.606
1/2	.500	7.938		63/64	.984	25.003
		8.334		1	1.000	25.400
		8.731				
		9.128				
		9.525				
		9.922				
		10.319				
		10.716				
		11.113				
		11.509				
		11.906				
		12.303				
		12.700				

FIGURE 6-6  
FEET TO METERS CONVERSION TABLE  
1 FOOT = 0.3048 METER

FEET	METERS	FEET	METERS	FEET	METERS	FEET	METERS	FEET	METERS
100	.30480	10	3.048	1	0.305	0.1	0.030	0.01	0.003
200	.60960	20	6.096	2	0.610	0.2	0.061	0.02	0.006
300	.91440	30	9.144	3	0.914	0.3	0.091	0.03	0.009
400	1.21920	40	12.192	4	1.219	0.4	0.122	0.04	0.012
500	1.52400	50	15.240	5	1.524	0.5	0.152	0.05	0.015
600	1.82880	60	18.288	6	1.829	0.6	0.183	0.06	0.018
700	2.13360	70	21.336	7	2.134	0.7	0.213	0.07	0.021
800	2.43840	80	24.384	8	2.438	0.8	0.244	0.08	0.024
900	2.74320	90	27.432	9	2.743	0.9	0.274	0.09	0.027
1,000	304.800	100	30.480	10	3.048	1.0	0.305	0.10	0.030

**Appendix A**

FIGURE 6-7  
POUNDS TO KILOGRAMS CONVERSION TABLE  
1 POUND = 0.4536 KILOGRAM

LB	KG	LB	KG	LB	KG	LB	KG	LB	KG
1,000 . . . .	453.59	100 . . . . .	45.36	10 . . . . .	4.54	1 . . . . .	0.45	0.1 . . . . .	0.05
2,000 . . . .	907.18	200 . . . . .	90.72	20 . . . . .	9.07	2 . . . . .	0.91	0.2 . . . . .	0.09
3,000 . . . .	1,360.78	300 . . . . .	136.08	30 . . . . .	13.61	3 . . . . .	1.36	0.3 . . . . .	0.14
4,000 . . . .	1,814.37	400 . . . . .	181.44	40 . . . . .	18.14	4 . . . . .	1.81	0.4 . . . . .	0.18
5,000 . . . .	2,267.96	500 . . . . .	226.80	50 . . . . .	22.68	5 . . . . .	2.27	0.5 . . . . .	0.23
6,000 . . . .	2,721.55	600 . . . . .	272.16	60 . . . . .	27.22	6 . . . . .	2.72	0.6 . . . . .	0.27
7,000 . . . .	3,175.15	700 . . . . .	317.51	70 . . . . .	31.75	7 . . . . .	3.18	0.7 . . . . .	0.32
8,000 . . . .	3,628.74	800 . . . . .	362.87	80 . . . . .	36.29	8 . . . . .	3.63	0.8 . . . . .	0.36
9,000 . . . .	4,082.33	900 . . . . .	408.23	90 . . . . .	40.82	9 . . . . .	4.08	0.9 . . . . .	0.41
10,000 . . . .	4,535.92	1,000 . . . . .	453.59	100 . . . . .	45.36	10 . . . . .	4.54	1.0 . . . . .	0.45

FIGURE 6-8  
POUNDS PER SQUARE INCH TO BAR CONVERSION TABLE  
1 PSI = 0.06895 BAR

PSI	BAR	PSI	BAR	PSI	BAR	PSI	BAR
1,000 . . . . .	68.95	100 . . . . .	6.90	10 . . . . .	0.69	1 . . . . .	0.07
2,000 . . . . .	137.90	200 . . . . .	13.79	20 . . . . .	1.38	2 . . . . .	0.14
3,000 . . . . .	206.84	300 . . . . .	20.68	30 . . . . .	2.07	3 . . . . .	0.21
4,000 . . . . .	275.80	400 . . . . .	27.58	40 . . . . .	2.76	4 . . . . .	0.28
5,000 . . . . .	344.70	500 . . . . .	34.47	50 . . . . .	3.45	5 . . . . .	0.35
6,000 . . . . .	413.64	600 . . . . .	41.36	60 . . . . .	4.14	6 . . . . .	0.41
7,000 . . . . .	482.58	700 . . . . .	48.26	70 . . . . .	4.83	7 . . . . .	0.48
8,000 . . . . .	551.52	800 . . . . .	55.15	80 . . . . .	5.52	8 . . . . .	0.55
9,000 . . . . .	620.46	900 . . . . .	62.05	90 . . . . .	6.21	9 . . . . .	0.62
10,000 . . . . .	689.48	1,000 . . . . .	68.95	100 . . . . .	6.90	10 . . . . .	0.69

FIGURE 6-9  
POUNDS PER SQUARE INCH TO  
KILOPASCALS CONVERSION TABLE  
1 PSI = 6.895 kPa

PSI	kPa	PSI	kPa
10 . . . . .	68.95	1 . . . . .	6.90
20 . . . . .	137.90	2 . . . . .	13.79
30 . . . . .	206.84	3 . . . . .	20.68
40 . . . . .	275.80	4 . . . . .	27.58
50 . . . . .	344.70	5 . . . . .	34.47
60 . . . . .	413.64	6 . . . . .	41.36
70 . . . . .	482.58	7 . . . . .	48.26
80 . . . . .	551.52	8 . . . . .	55.15
90 . . . . .	620.46	9 . . . . .	62.05
100 . . . . .	689.48	10 . . . . .	68.95

**Appendix A**

**FIGURE 6-10**  
**FAHRENHEIT TO CELSIUS (Centigrade) CONVERSION TABLE**  
**°F MINUS 32, DIVIDED BY 1.8 EQUALS °C**

°F	°C	°F	°C	°F	°C	°F	°C
1	-17.2	51	10.6	101	38.3	151	66.1
2	-16.7	52	11.1	102	38.9	152	66.7
3	-16.1	53	11.7	103	39.4	153	67.2
4	-15.6	54	12.2	104	40.0	154	67.8
5	-15.0	55	12.8	105	40.6	155	68.3
6	-14.4	56	13.3	106	41.1	156	68.9
7	-13.9	57	13.9	107	41.7	157	69.4
8	-13.3	58	14.4	108	42.2	158	70.0
9	-12.8	59	15.0	109	42.8	159	70.6
10	-12.2	60	15.6	110	43.3	160	71.1
11	-11.7	61	16.1	111	43.9	161	71.7
12	-11.1	62	16.7	112	44.4	162	72.2
13	-10.6	63	17.2	113	45.0	163	72.8
14	-10.0	64	17.8	114	45.6	164	73.3
15	-9.4	65	18.3	115	46.1	165	73.9
16	-8.9	66	18.9	116	46.7	166	74.4
17	-8.3	67	19.4	117	47.2	167	75.0
18	-7.8	68	20.0	118	47.8	168	75.6
19	-7.2	69	20.6	119	48.3	169	76.1
20	-6.7	70	21.1	120	48.9	170	76.7
21	-6.1	71	21.7	121	49.4	171	77.2
22	-5.6	72	22.2	122	50.0	172	77.8
23	-5.0	73	22.8	123	50.6	173	78.3
24	-4.4	74	23.3	124	51.1	174	78.9
25	-3.9	75	23.9	125	51.7	175	79.4
26	-3.3	76	24.4	126	52.2	176	80.0
27	-2.8	77	25.0	127	52.8	177	80.6
28	-2.2	78	25.6	128	53.3	178	81.1
29	-1.7	79	26.1	129	53.9	179	81.7
30	-1.1	80	26.7	130	54.4	180	82.2
31	-0.6	81	27.2	131	55.0	181	82.8
32	0.0	82	27.8	132	55.6	182	83.3
33	0.6	83	28.3	133	56.1	183	83.9
34	1.1	84	28.9	134	56.7	184	84.4
35	1.7	85	29.4	135	57.2	185	85.0
36	2.2	86	30.0	136	57.8	186	85.6
37	2.7	87	30.6	137	58.3	187	86.1
38	3.3	88	31.1	138	58.9	188	86.7
39	3.9	89	31.7	139	59.4	189	87.2
40	4.4	90	32.2	140	60.0	190	87.8
41	5.0	91	32.8	141	60.6	191	88.3
42	5.6	92	33.3	142	61.1	192	88.9
43	6.1	93	33.9	143	61.7	193	89.4
44	6.7	94	34.4	144	62.2	194	90.0
45	7.2	95	35.0	145	62.8	195	90.6
46	7.8	96	35.6	146	63.3	196	91.1
47	8.3	97	36.1	147	63.9	197	91.7
48	8.9	98	36.7	148	64.4	198	92.2
49	9.4	99	37.2	149	65.0	199	92.8
50	10.0	100	37.8	150	65.6	200	93.3

**Appendix A**

FIGURE 6-11  
MILES PER HOUR TO KILOMETERS PER HOUR  
CONVERSION TABLE  
1 MPH = 1.609 KM/H

MPH	KM/H	MPH	KM/H	MPH	KM/H
10	16.09	1	1.61	0.1	0.16
20	32.19	2	3.22	0.2	0.32
30	48.28	3	4.83	0.3	0.48
40	64.37	4	6.44	0.4	0.64
50	80.47	5	8.05	0.5	0.80
60	96.56	6	9.66	0.6	0.97
70	112.65	7	11.27	0.7	1.13
80	128.75	8	12.87	0.8	1.29
90	144.84	9	14.48	0.9	1.45
100	160.93	10	16.09	1.0	1.61

FIGURE 6-12  
U.S. GALLONS TO LITERS CONVERSION TABLE  
1 U.S. GALLON = 3.785 LITERS

GAL	LITER	GAL	LITER	GAL	LITER	GAL	LITER
100	378.54	10	37.85	1	3.79	0.1	0.38
200	757.08	20	75.71	2	7.57	0.2	0.76
300	1,135.62	30	113.56	3	11.36	0.3	1.14
400	1,514.16	40	151.42	4	15.14	0.4	1.51
500	1,892.71	50	189.27	5	18.93	0.5	1.89
600	2,271.25	60	227.12	6	22.71	0.6	2.27
700	2,649.79	70	264.98	7	26.50	0.7	2.65
800	3,028.33	80	302.83	8	30.28	0.8	3.03
900	3,406.87	90	340.69	9	34.07	0.9	3.41
1,000	3,785.41	100	378.54	10	37.85	1.0	3.79



**SECTION 7 - PARTS  
TABLE OF CONTENTS**

SERIAL NUMBERS ..... 7 - 4

INSTRUCTIONS FOR ORDERING PARTS ..... 7 - 5

LIMITED WARRANTY ..... 7 - 6

DISCLAIMER - PRODUCT IMPROVEMENT LIABILITY ..... 7 - 6

DISCLAIMER - HAZARDOUS MATERIAL ..... 7 - 6

RAIL PILOT UNIT ASSEMBLY - 132381K ..... 7 - 8

COUPLING AND TUBE ASSEMBLY - RF/LR - 132382K ..... 7 - 10

COUPLING AND TUBE ASSEMBLY - LF/RR - 132383K ..... 7 - 12

SPINDLE AND GUIDE WHEEL, STEEL TREAD - 072894K ..... 7 - 14

SPINDLE AND GUIDE WHEEL, RUBBER TREAD - 078024K ..... 7 - 15

BUMPER GROUP

    FRONT AND REAR - 130733 ..... 7 - 16

    FRONT ONLY - 131997 ..... 7 - 17

    REAR ONLY - 132597 ..... 7 - 17

RAIL SWEEP GROUP - 088521 ..... 7 - 18

DERAIL SKID GROUP - 088684 ..... 7 - 19

STEP PLATE GROUPS

    STEP PLATE GROUP, FRONT OR REAR - 135685 ..... 7 - 20

    ALUMINUM STEP PLATE GROUP, FRONT - 171077 ..... 7 - 21

    ALUMINUM STEP PLATE GROUP, REAR - 186109 ..... 7 - 22

LIFT HANDLE LATCH GROUP - 131316 ..... 7 - 23

HITCH GROUP - 131387 ..... 7 - 24

WHEEL WEIGHING JACK - 073527 ..... 7 - 25

STROBE LIGHT - 156020 ..... 7 - 25

TOOLS - STANDARD ..... 7 - 26

**TABLE OF CONTENTS**

TOOLS - OPTIONAL . . . . . 7 - 26

DECAL SERVICE GROUP - 154592 . . . . . 7 - 26

STEERING LOCK GROUPS . . . . . 7 - 26

TYPICAL MOUNTING BRACKETS DRAWING . . . . . 7 - 27

FASTENER KITS FOR FRONT AND REAR BRACKET MOUNTING

    FASTENER KIT 181460 . . . . . 7 - 28

    FASTENER KIT 181461 . . . . . 7 - 28

    FASTENER KIT 181462 . . . . . 7 - 28

    FASTENER KIT 187178 . . . . . 7 - 28

MOUNTING BRACKET GROUP

    158791 . . . . . 7 - 29

    158793 . . . . . 7 - 30

    159082 . . . . . 7 - 30

    159311 . . . . . 7 - 31

    159848 . . . . . 7 - 32

    159932 . . . . . 7 - 33

    161426 . . . . . 7 - 34

    161644 . . . . . 7 - 35

    162445 . . . . . 7 - 35

    162460 . . . . . 7 - 36

    163169 . . . . . 7 - 37

    167879 . . . . . 7 - 37

    169032 . . . . . 7 - 38

    170769 . . . . . 7 - 38

    172493 . . . . . 7 - 39

    174325 . . . . . 7 - 39

    180024 . . . . . 7 - 40

    180717 . . . . . 7 - 40

    184433 . . . . . 7 - 41

    184459 . . . . . 7 - 41

    186265 . . . . . 7 - 42

    186268 . . . . . 7 - 42

**TABLE OF CONTENTS**

WHEEL MODIFICATION GROUP

137353.....	7 - 43
159849.....	7 - 43
161642.....	7 - 44
162451.....	7 - 44
163620.....	7 - 45
168072.....	7 - 45
168290.....	7 - 46
168678.....	7 - 46
169031.....	7 - 47
170050.....	7 - 48
170051.....	7 - 49
172501.....	7 - 50
180025.....	7 - 51
180718.....	7 - 51
184448.....	7 - 51
188439.....	7 - 52

WHEEL HOUSING MODIFICATION GROUP

121658.....	7 - 53
121659.....	7 - 53



### Serial Numbers

When this bulletin is received, fill in the spaces provided below using the information from the serial number tags on both the front and rear rail pilot units. Always provide these factory serial numbers when calling or writing about the units. The serial number tags are located on the cross channel on both units.

#### FRONT RAIL PILOT UNIT SERIAL NUMBER TAG

<b>HTT</b> <b>Harsco</b> <b>Track</b> <b>Technologies</b> a harsco company™			PATENT NUMBER <input type="text"/>
WHEN ORDERING PARTS FOR THIS ACCESSORY ALWAYS GIVE THE FOLLOWING INFORMATION			
<b>Fairmont</b> ™ HY-RAIL® GUIDE WHEEL EQUIPMENT			
SERIAL NUMBER	SYMBOL	MODEL NUMBER	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
FAIRMONT, MN. 56031 U.S.A.			
52400K			

#### REAR RAIL PILOT UNIT SERIAL NUMBER TAG

<b>HTT</b> <b>Harsco</b> <b>Track</b> <b>Technologies</b> a harsco company™			PATENT NUMBER <input type="text"/>
WHEN ORDERING PARTS FOR THIS ACCESSORY ALWAYS GIVE THE FOLLOWING INFORMATION			
<b>Fairmont</b> ™ HY-RAIL® GUIDE WHEEL EQUIPMENT			
SERIAL NUMBER	SYMBOL	MODEL NUMBER	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
FAIRMONT, MN. 56031 U.S.A.			
52400K			

## Instructions For Ordering Parts

1. See Section 8 for the Vehicle Application charts.
2. Find the chart for the make, model and year of the vehicle that the unit is mounted on.
3. Each application consists of required groups, optional groups required and accessory group options. These are the group numbers that were supplied with, or that were available for the unit.
4. Locate the appropriate group numbers in the Parts Section to find the individual parts required.
5. Front - rear and left - right are determined from the operator's position.
6. Assemblies: Items listed in CAPITALS are assemblies which include all parts listed immediately following and with the part description indented to the right. When assemblies can be used, always order them to save work of fitting separate parts.
7. For convenience in ordering, parts are listed by item number, part number, description, and quantity in each assembly or group. If in doubt as to any part wanted, send full description, sketch, or send the old part with the order.
8. To insure prompt and correct shipment of parts on orders, always give:
  1. Quantity of each part wanted.
  2. Part number of each part as shown in this book. Include any prefix and suffix letters.
  3. Description of each part as shown in this book.
  4. Factory serial numbers from the serial number tag.
  5. Purchase order number (if required).
  6. Preferred method of shipment.
9. All parts are shipped F.O.B. factory, transportation charges to be paid by customer. Terms to be determined by the Credit Department.

## Limited Warranty

HARSCO TRACK TECHNOLOGIES™ products are designed to give high quality service and are manufactured from high grade material, by competent workmen under careful supervision. Harsco Track Technologies, Harsco Corporation warrants products of its manufacture to be free of defects in material and workmanship, under normal use and service for a period of six (6) months from date of delivery to the original user. The obligation of Harsco Track Technologies, Harsco Corporation under this warranty is limited to repairing or replacing at its factories, or other location designated by it, any part or parts thereof which are returned within 30 days of the date when failure occurs or defect is noted, with transportation charges prepaid, and which upon examination appears to the satisfaction of Harsco Track Technologies, Harsco Corporation to have been defective. Such free repair or replacement does not include transportation charges, or the cost of installing the new part or any other expense incident thereto. Harsco Track Technologies, Harsco Corporation will not be liable for other loss, damage, or expense directly or indirectly arising from the use of its products, nor will Harsco Track Technologies, Harsco Corporation be liable for special, incidental or consequential damages.

Ordinary wear and tear, and damage from abuse, misuse, neglect or alteration are not covered by this warranty. Harsco Track Technologies, Harsco Corporation assumes no liability for expenses incurred or repairs made outside its factories except by written consent. This warranty is null and void if instructions and operating procedures are not followed.

Equipment or parts not manufactured by this company, but which are furnished in connection with HARSCO TRACK TECHNOLOGIES™ products, are covered directly by the warranty of the manufacturer supplying them. However, Harsco Track Technologies, Harsco Corporation will assist in obtaining adjustment on such equipment or parts when necessary.

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## Product Improvement Liability Disclaimer

7

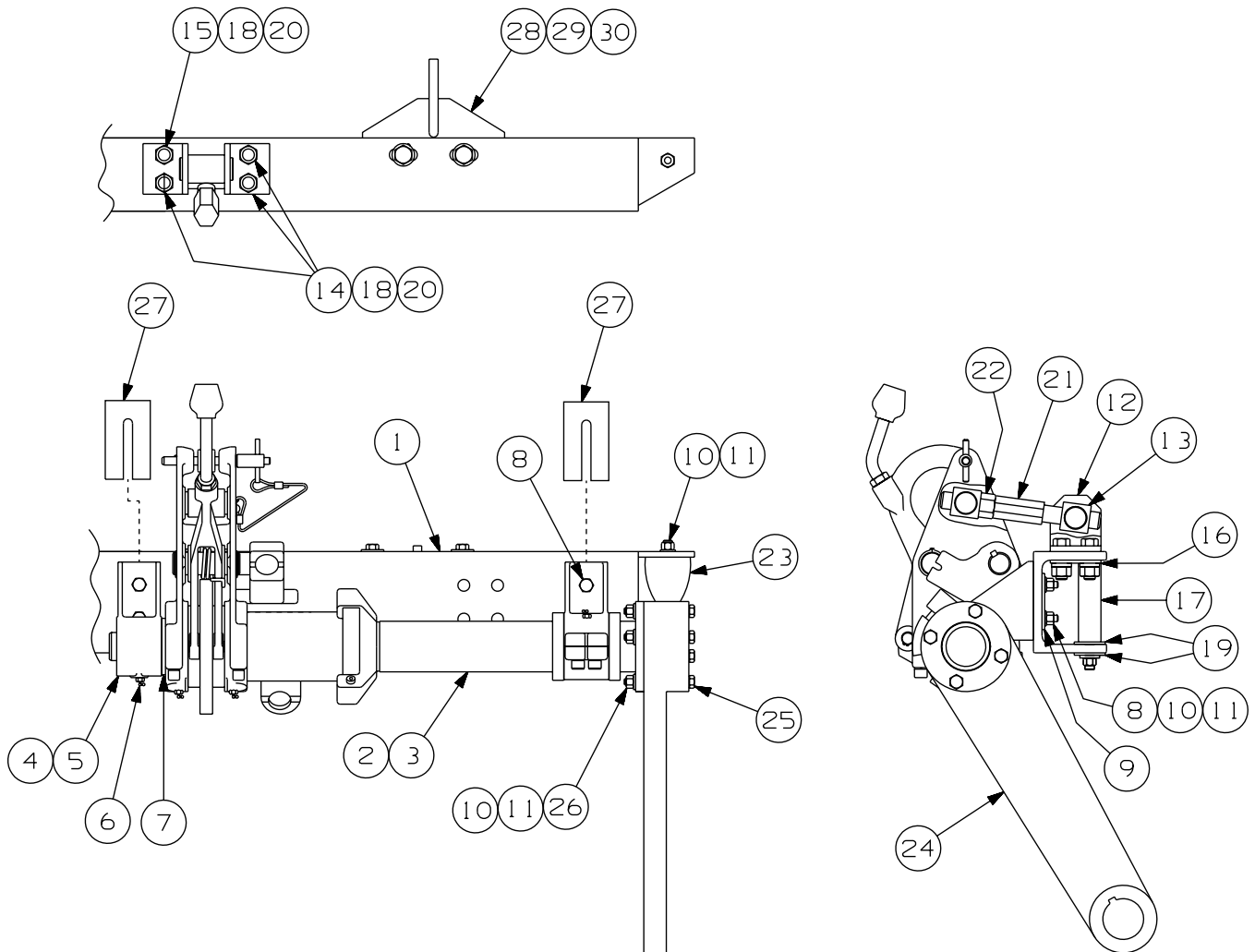
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## Hazardous Material Disclaimer

THE PARTS/ASSEMBLIES THAT ARE USED IN THIS PRODUCT ARE CLASSIFIED AS "ARTICLES" ACCORDING TO 29 CFR 1910.1200 (C). THEY ARE FORMED TO A SPECIFIC SHAPE OR DESIGN DURING MANUFACTURE, HAVE END USE FUNCTION DEPENDENT UPON THEIR SHAPE OR DESIGN, AND DO NOT RELEASE ANY HAZARDOUS CHEMICAL UNDER NORMAL CONDITIONS OF USE. ACCORDINGLY, WE ARE NOT REQUIRED TO SUPPLY MATERIAL SAFETY DATA SHEETS (MSDS) OR TO LABEL SHIPPING CONTAINERS FOR "ARTICLES". HOWEVER, LUBRICANTS, LIQUIDS, GASEOUS CHEMICALS AND SOLIDS USED IN OPERATION OR MAINTENANCE OF THE PRODUCT MAY REQUIRE THAT USER'S TAKE OCCUPATIONAL PROTECTIVE MEASURES. MSDS SHEETS FOR SUCH MATERIALS WILL BE SUPPLIED TO YOUR PURCHASING MANAGER/SAFETY DIRECTOR TO BE USED IN YOUR EMPLOYEE SAFETY TRAINING EDUCATION AND ENVIRONMENTAL HEALTH TRAINING.



**132381K RAIL PILOT UNIT ASSEMBLY**



SE132381A-1

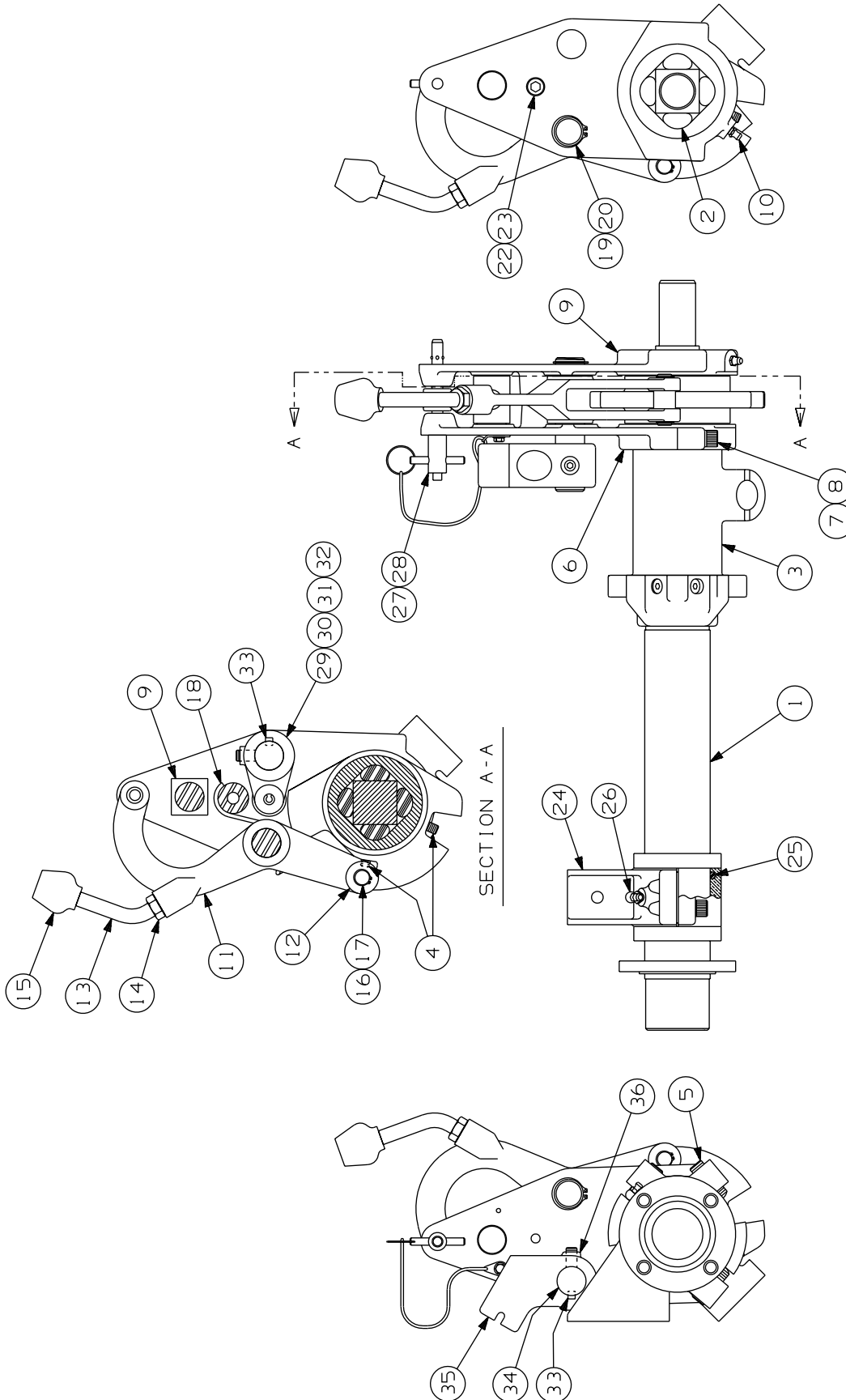
**7**

ITEM	PART NO	DESCRIPTION	QTY
1	101764	Cross Channel . . . . .	1
2	132382K	Coupling and Shaft Assembly RF / LR (see separate breakdown) . . . . .	1
3	132383K	Coupling and Shaft Assembly LF / RR (see separate breakdown) . . . . .	1
4	083119	INNER PIVOT BEARING . . . . .	2
5	F014262	Grease Seal . . . . .	2
6	F008014	Grease Fitting . . . . .	1
7	083121	Thrust Washer . . . . .	2
8	F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	8
9	101799	Bolt Strip . . . . .	4
10	F001025	SAE Lock Washer, 3/8" . . . . .	18
11	F016820	Hex Nut, 3/8"-24 . . . . .	18
12	083122	Support Angle . . . . .	4

**132381K RAIL PILOT UNIT ASSEMBLY**

ITEM	PART NO	DESCRIPTION	QTY
13	083118	Trunnion Nut . . . . .	2
14	F001090	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	6
15	F001525	Cap Screw, 1/2-13 x 5-1/2" Hex Hd . . . . .	2
16	101802	Bolt Strip. . . . .	4
17	101803	Spacer Tube. . . . .	2
18	F001075	SAE Lock Washer, 1/2" . . . . .	8
19	F001267	Wrought Washer, 1/2" . . . . .	8
20	F003598	Hex Nut, 1/2"-13. . . . .	8
21	083123	Adjusting Stud . . . . .	2
22	F005170	Hex Nut, 3/4"-16. . . . .	2
23	F011732	Rubber Bumper . . . . .	2
24	105982	Wheel Arm . . . . .	2
25	F025223	Cap Screw, 3/8-24 x 3" Hex Hd . . . . .	8
26	F001362	Wrought Washer, 5/16" . . . . .	8
27	101818K	Bearing Shim, 1/16" (use as required for wheel alignment) . . . . .	5
28	101813K	Side Plate Adapter . . . . .	2
29	101816	Spacer, 1/16" . . . . .	4
30	101817	Spacer, 1/32" . . . . .	2
	181463	ADAPTER BRACKET FASTENER KIT . . . . .	1
	F019742	Cap Screw, 3/8-16 x 1-1/2" GR 8 Hex Hd . . . . .	16
	F023111	Harden Washer. . . . .	16
	058528	Washer . . . . .	16
	F015922	Elastic Stop Nut, 3/8"-16. . . . .	16
	F018650	Cap Screw, 1/2-13 x 1-1/2" GR 8 Hex Hd . . . . .	12
	F013500	Elastic Stop Nut, 1/2"-13. . . . .	12
	135744	Hand Lever . . . . .	1
	162058	Decal, Warning, Supplied Lift Handles... . . . .	2
	F018082	Decal, Safety Instructions - Lock Front Wheels... . . . .	1
	140220	Decal, Warning - Do Not Operate This Machine Before... . . . .	1
	135742	Decal, Operating Instructions. . . . .	1
	F018084	Decal, Operation . . . . .	2
	155007	Decal, HY-RAIL® Vehicle Completed By... . . . .	1
	135741	Easy-Lift Conversion Group (Converts units with or without gears to units with Easy-Lift). . . . .	1

132382K COUPLING AND TUBE ASSEMBLY - RF/LR



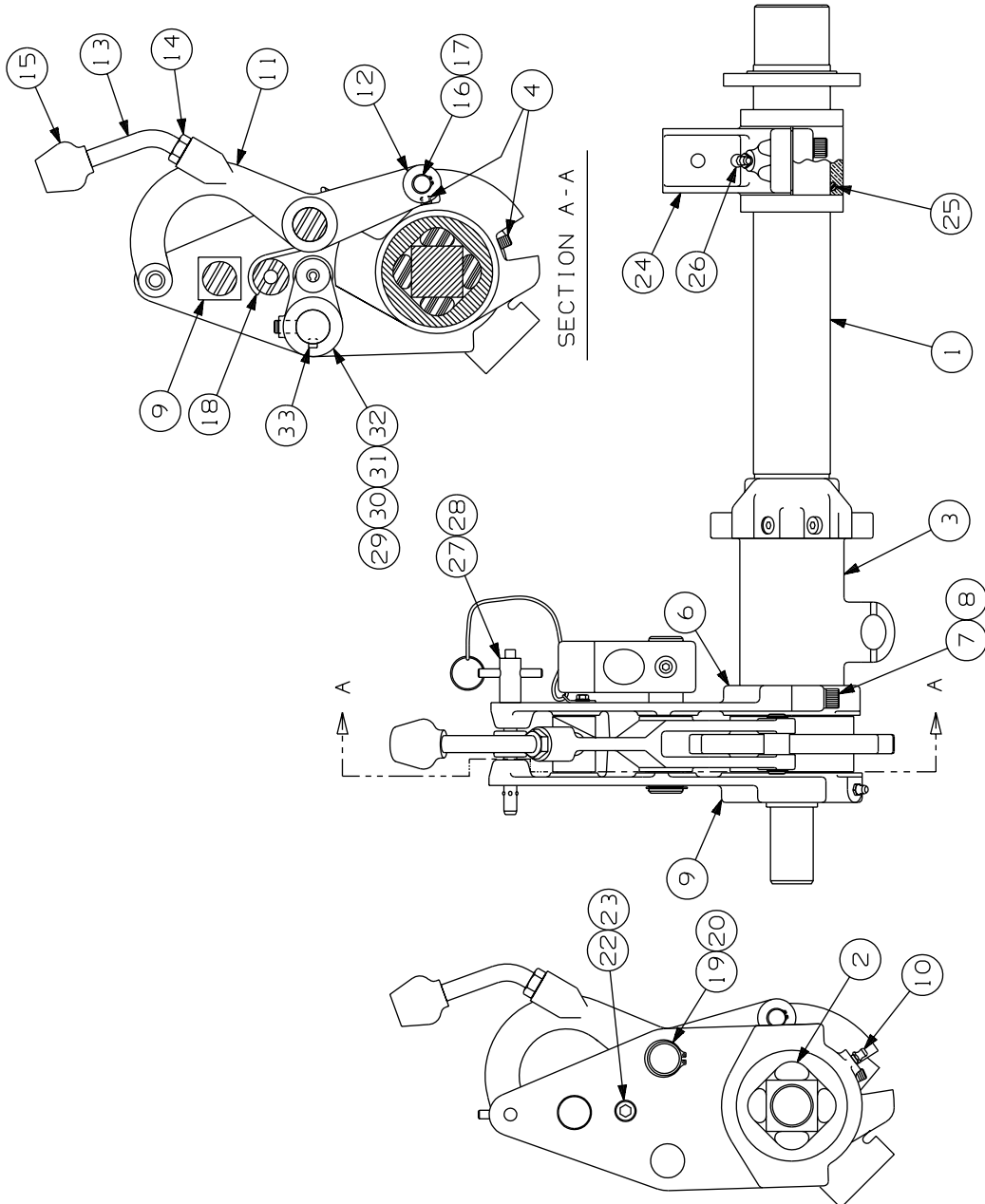
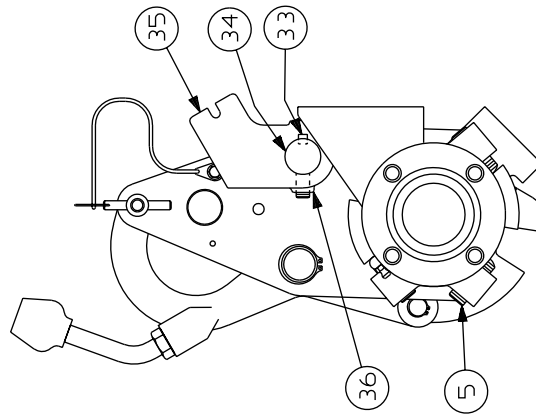
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**132382K COUPLING AND TUBE ASSEMBLY - RF/LR**

ITEM	PART NO	DESCRIPTION	QTY
*	1	101769 Tube And Shaft . . . . .	1
*	2	083085 Rubber Cord. . . . .	4
*	3	118504 Torque Coupling. . . . .	1
*	4	F018272 Set Screw, 5/16-18 x 3/4" Cup Point . . . . .	2
*	5	F012772 Set Screw, 1/2-13 x 1-1/2" Oval Point . . . . .	4
	6	083088 LOCK SUPPORT . . . . .	1
	7	F012849 Cap Screw, 3/8-24 x 1-1/2" Soc Hd . . . . .	2
	8	F011455 Lock Washer, 3/8". . . . .	2
	9	083114 Lock Support . . . . .	1
	10	F008014 Grease Fitting, 1/4" Straight. . . . .	2
	11	083093K LOCKING PAWL . . . . .	1
	12	083095K Sleeve. . . . .	1
	13	084877 Stud, Handle . . . . .	1
	14	F002737 Hex Jam Nut, 1/2"-13 . . . . .	1
	15	F014260K Knob . . . . .	1
	16	107533 Pin . . . . .	1
	17	F009169K Retaining Ring, 1/2" External . . . . .	2
	18	083097 Torsion Spring . . . . .	1
	19	130705 Pin . . . . .	1
	20	F011450 Retaining Ring, 1" External . . . . .	2
	21	083100 Trunnion Nut . . . . .	1
	22	F008549 Cap Screw, 3/8-24 x 1-1/2" Soc Hd . . . . .	1
	23	F011455 Lock Washer, 3/8" High Collar . . . . .	1
	24	083106 OUTER BEARING . . . . .	1
	25	F013472 Dust Seal . . . . .	1
	26	F010722 Grease Fitting, 1/4" 90°. . . . .	1
	27	083105K1 Lock Pin And Lanyard . . . . .	1
	28	F023158 Cap Screw, #10-24 x 3/8" Hex Flg Hd . . . . .	1
	29	085957 PIVOT ARM . . . . .	1
	30	093467 Roller . . . . .	1
	31	F011954 Roll Pin, 3/8 x 1-1/2". . . . .	1
	32	F012127 Set Screw, 3/8-16 x 1/2" Cup Point . . . . .	1
	33	M002310 Square Key, 1/4 x 1-1/2" . . . . .	2
	34	159452 Shaft . . . . .	1
	35	159451 Socket . . . . .	1
	36	F012127 Set Screw, 3/8-16 x 1/2" Cup Point . . . . .	1
*	135959	Coupling, Cord and Tube Service Group. . . . . (Includes items marked with a *)	1



132383K COUPLING AND TUBE ASSEMBLY - LF/RR

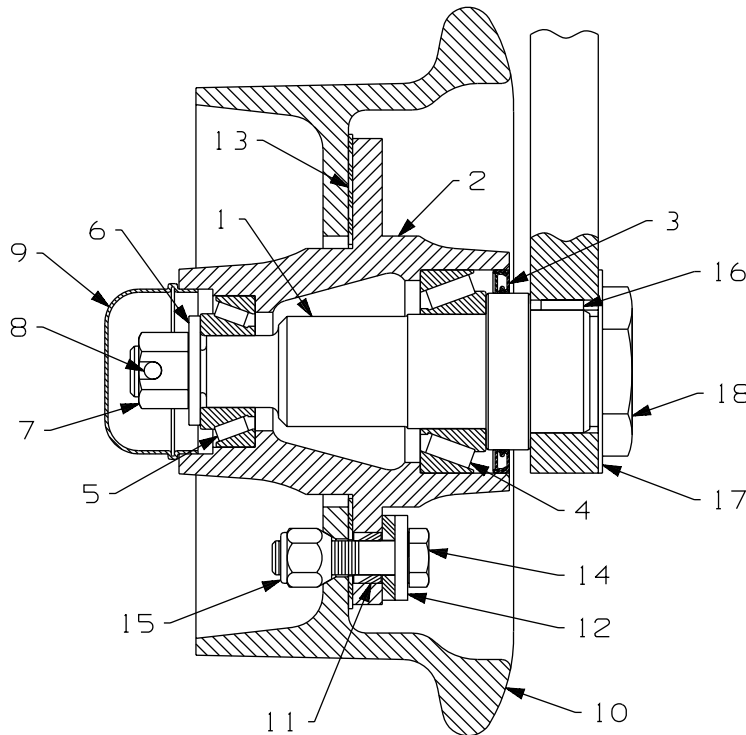


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**132383K COUPLING AND TUBE ASSEMBLY - LF/RR**

ITEM	PART NO	DESCRIPTION	QTY
*	1	161655 Tube And Shaft . . . . .	1
*	2	083085 Rubber Cord. . . . .	4
*	3	118503 Torque Coupling. . . . .	1
*	4	F018272 Set Screw, 5/16-18 x 3/4" Cup Point . . . . .	2
*	5	F012772 Set Screw, 1/2-13 x 1-1/2" Oval Point . . . . .	4
	6	083088 LOCK SUPPORT . . . . .	1
	7	F012849 Cap Screw, 3/8-24 x 1-1/2" Soc Hd . . . . .	2
	8	F011455 Lock Washer, 3/8". . . . .	2
	9	083114 Lock Support . . . . .	1
	10	F008014 Grease Fitting, 1/4" Straight. . . . .	2
	11	083093K LOCKING PAWL . . . . .	1
	12	083095K Sleeve. . . . .	1
	13	084877 Stud, Handle . . . . .	1
	14	F002737 Hex Jam Nut, 1/2"-13 . . . . .	1
	15	F014260K Knob . . . . .	1
	16	107533 Pin . . . . .	1
	17	F009169K Retaining Ring, 1/2" External . . . . .	2
	18	083097 Torsion Spring . . . . .	1
	19	130705 Pin . . . . .	1
	20	F011450 Retaining Ring, 1" External . . . . .	2
	21	083100 Trunnion Nut . . . . .	1
	22	F008549 Cap Screw, 3/8-24 x 1-1/2" Soc Hd . . . . .	1
	23	F011455 Lock Washer, 3/8" High Collar . . . . .	1
	24	083106 OUTER BEARING . . . . .	1
	25	F013472 Dust Seal . . . . .	1
	26	F010722 Grease Fitting, 1/4" 90°. . . . .	1
	27	083105K1 Lock Pin And Lanyard . . . . .	1
	28	F023158 Cap Screw, #10-24 x 3/8" Hex Flg Hd . . . . .	1
	29	085957 PIVOT ARM . . . . .	1
	30	093467 Roller . . . . .	1
	31	F011954 Roll Pin, 3/8 x 1-1/2". . . . .	1
	32	F012127 Set Screw, 3/8-16 x 1/2" Cup Point . . . . .	1
	33	M002310 Square Key, 1/4 x 1-1/2" . . . . .	2
	34	159452 Shaft . . . . .	1
	35	159451 Socket . . . . .	1
	36	F012127 Set Screw, 3/8-16 x 1/2" Cup Point . . . . .	1
*	135958	Coupling, Cord and Tube Service Group. . . . . (Includes items marked with a *)	1

**072894K SPINDLE AND GUIDE WHEEL, STEEL TREAD**

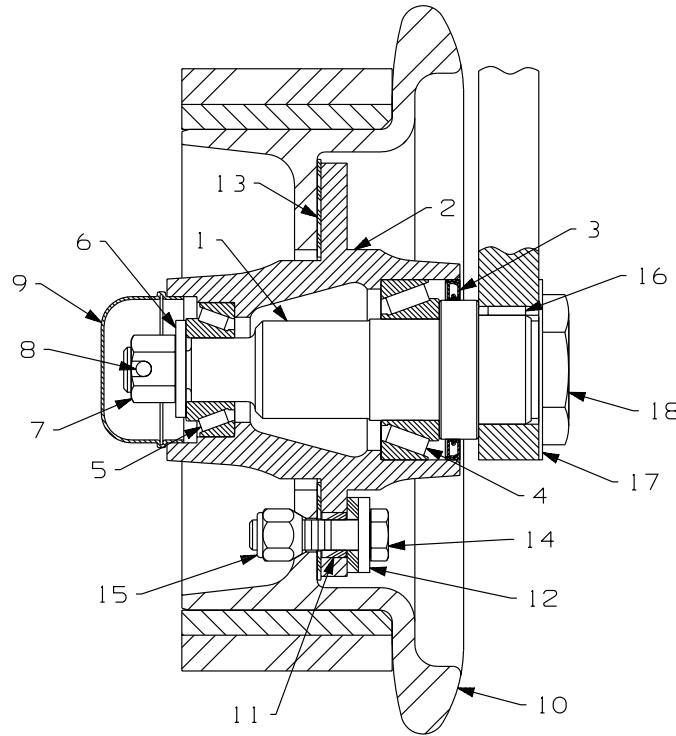


SE072894A-1

*Note: Quantities listed are for one guide wheel only.*

ITEM	PART NO	DESCRIPTION	QTY
	072894K	SPINDLE AND GUIDE WHEEL ASSEMBLY.....	1
	113558	SPINDLE AND HUB ASSEMBLY .....	1
1	072895K	Spindle .....	1
2	112496K	Hub .....	1
3	F012771K	Grease Seal .....	1
4	F012797	Bearing Cup And Cone assembly, Inner.....	1
5	F012796	Bearing Cup And Cone Assembly, outer.....	1
6	F010450	Tongue Washer.....	1
7	F002845	Hex Castle Nut, 3/4"-16.....	1
8	F001094	Cotter Pin, 3/16 x 1-1/4" .....	1
9	F018397	Grease Cap.....	1
10	105657K	Guide Wheel.....	1
11	F012763K	Insulating Washer and Bushing Set .....	6
12	072897	Washer .....	6
13	F012765	Insulating Washer.....	1
14	F012762	Cap Screw, 1/2-20 x 2" Hex Hd .....	6
15	F012764	Cone Nut, 1/2"-20.....	6
16	072899	Square Key, 5/16 x 5/8".....	1
17	F007820K	Lock Washer, 1-13/16" .....	1
18	077735	Hex Nut, 1.767".....	1

**078024K SPINDLE AND GUIDE WHEEL, RUBBER TREAD**

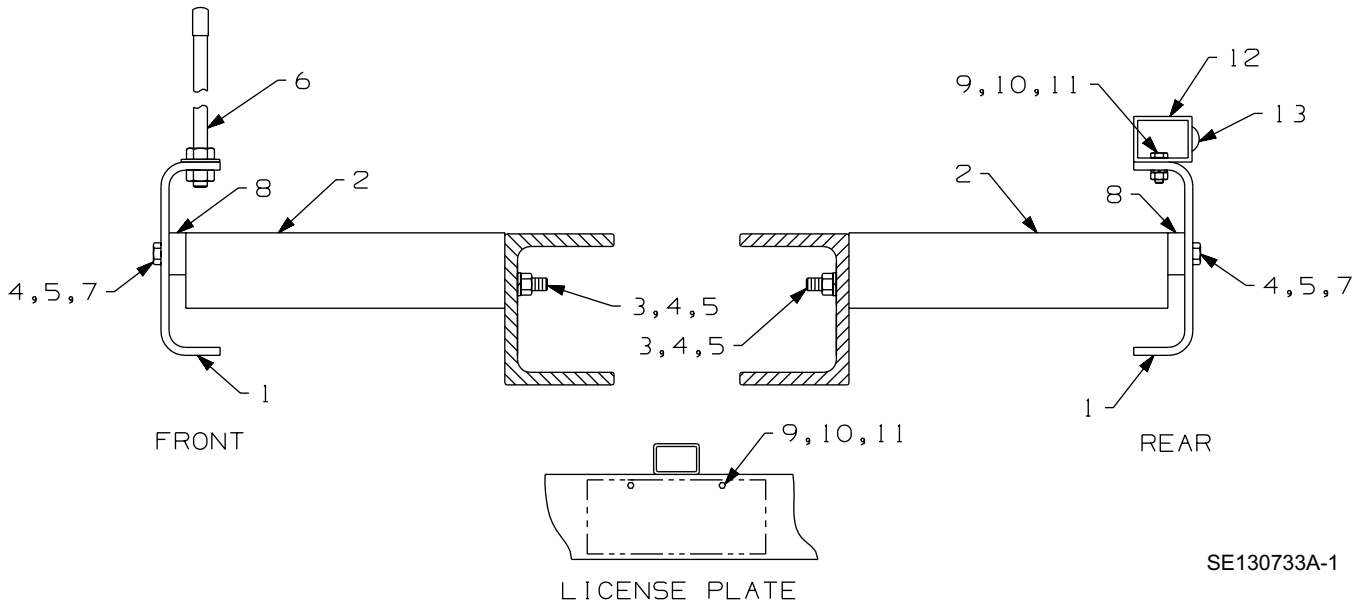


SE078024A-1

*Note: Quantities listed are for one guide wheel only.*

ITEM	PART NO	DESCRIPTION	QTY
	078024K	SPINDLE AND GUIDE WHEEL ASSEMBLY . . . . .	1
	113558	SPINDLE AND HUB ASSEMBLY . . . . .	1
1	072895K	Spindle . . . . .	1
2	112496K	Hub . . . . .	1
3	F012771K	Grease Seal . . . . .	1
4	F012797	Bearing Cone With Cup (inner) . . . . .	1
5	F012796	Bearing Cone With Cup (outer) . . . . .	1
6	F010450	Tongue Washer . . . . .	1
7	F002845	Hex Castle Nut, 3/4"-16 . . . . .	1
8	F001094	Cotter Pin, 3/16 x 1-1/4" . . . . .	1
9	F018397	Grease Cap . . . . .	1
10	077179K	GUIDE WHEEL . . . . .	1
	105658	Replacement Rubber Tread . . . . .	1
11	F012763K	Insulating Bushing and Washer Set . . . . .	6
12	072897	Washer . . . . .	6
13	F012765	Insulating Washer . . . . .	1
14	F012762	Cap Screw, 1/2-20 x 2" Hex Hd . . . . .	6
15	F012764	Cone Nut, 1/2"-20 . . . . .	6
16	072899	Square Key, 5/16 x 5/8" . . . . .	1
17	F007820K	Lock Washer, 1-13/16" . . . . .	1
18	077735	Hex Nut, 1.767" . . . . .	1

**130733 BUMPER GROUP - FRONT AND REAR**  
**131997 BUMPER GROUP - FRONT ONLY**  
**132597 BUMPER GROUP - REAR ONLY**



SE130733A-1

**130733 BUMPER GROUP - FRONT AND REAR**

ITEM	PART NO	DESCRIPTION	QTY
	130733	BUMPER GROUP - Front and Rear . . . . .	1
1	131380	Bumper . . . . .	2
2	083139K2	Bracket, Bumper . . . . .	4
3	F001090	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	8
4	F001075	Lock Washer, 1/2" . . . . .	16
5	F003598	Hex Nut, 1/2"-13 . . . . .	16
6	130195	Sight Rod Kit (includes two sight rods and mounting hardware) . . . . .	1
7	F001095	Cap Screw, 1/2-13 x 1-3/4" Hex Hd . . . . .	8
8	095576	Spacer . . . . .	4
9	F002355	Cap Screw, 1/4-20 x 3/4" Hex Hd . . . . .	6
10	F009535	Lock Washer, 1/4" . . . . .	6
11	F007022	Hex Nut, 1/4"-20 . . . . .	6
12	107874	License Light Bracket . . . . .	1
13	F015664	License Lamp . . . . .	1

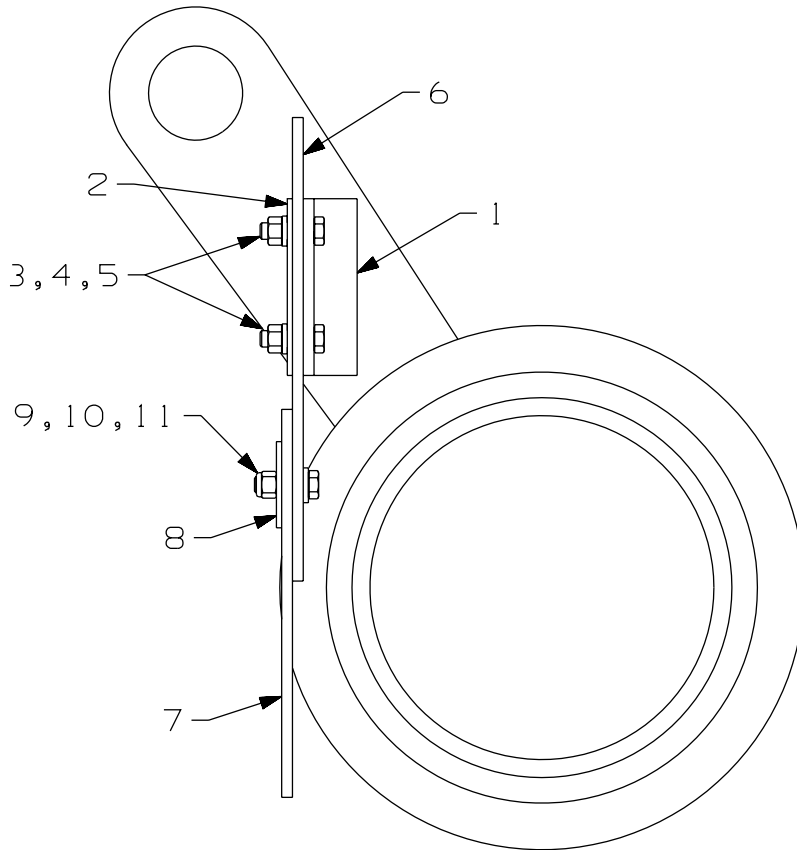
**131997 BUMPER GROUP - FRONT ONLY**

ITEM	PART NO	DESCRIPTION	QTY
	131997	BUMPER GROUP - Front Only . . . . .	1
1	131380	Bumper . . . . .	1
2	083139K2	Bracket, Bumper . . . . .	2
3	F001090	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	4
4	F001075	Lock Washer, 1/2" . . . . .	8
5	F003598	Hex Nut, 1/2"-13 . . . . .	8
6	130195	Sight Rod Kit (includes two sight rods and mounting hardware) . . . . .	1
7	F001095	Cap Screw, 1/2-13 x 1-3/4" Hex Hd . . . . .	4
8	095576	Spacer . . . . .	2
9	F002355	Cap Screw, 1/4-20 x 3/4" Hex Hd . . . . .	2
10	F009535	Lock Washer, 1/4" . . . . .	2
11	F007022	Hex Nut, 1/4"-20 . . . . .	2

**132597 BUMPER GROUP - REAR ONLY**

ITEM	PART NO	DESCRIPTION	QTY
	132597	BUMPER GROUP - Rear Only . . . . .	1
1	131380	Bumper . . . . .	1
2	083139K2	Bracket, Bumper . . . . .	2
3	F001090	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	4
4	F001075	Lock Washer, 1/2" . . . . .	8
5	F003598	Hex Nut, 1/2"-13 . . . . .	8
6		Not Used	
7	F001095	Cap Screw, 1/2-13 x 1-3/4" Hex Hd . . . . .	4
8	095576	Spacer . . . . .	2
9	F002355	Cap Screw, 1/4-20 x 3/4" Hex Hd . . . . .	4
10	F009535	Lock Washer, 1/4" . . . . .	4
11	F007022	Hex Nut, 1/4"-20 . . . . .	4
12	107874	License Light Bracket . . . . .	1
13	F015664	License Lamp . . . . .	1

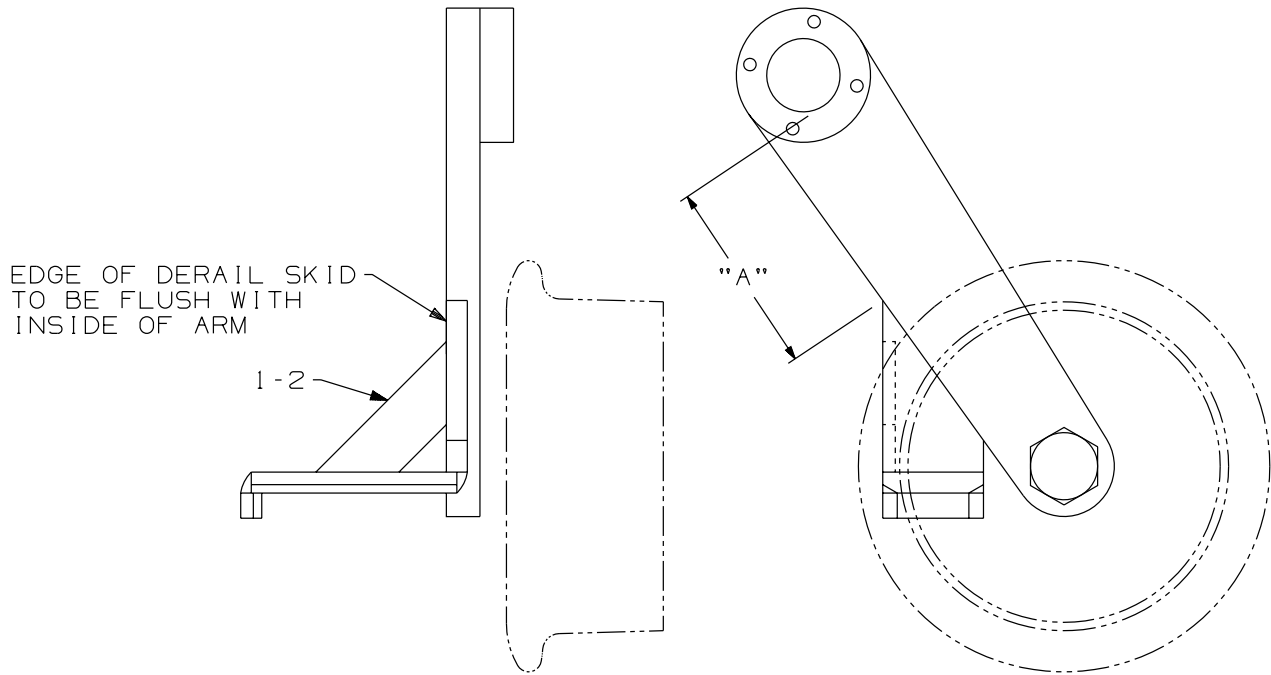
**088521 RAIL SWEEP GROUP**



SE014500A-1

ITEM	PART NO	DESCRIPTION	QTY
	088521	RAIL SWEEP GROUP . . . . .	1
1	088522	Angle (Weld On) . . . . .	2
2	088525	Plate, Outer. . . . .	2
3	F001125	Cap Screw, 3/8-16 x 1-1/4" GR 5 Hex Hd . . . . .	4
4	F001025	SAE Lock Washer, 3/8" . . . . .	4
5	F007020	Hex Nut, 3/8-16" GR 5 . . . . .	4
6	088523	Support, Left or Right . . . . .	2
7	088524K	Sweep, Rubber . . . . .	2
8	088525	Plate, Outer. . . . .	2
9	F001024	Cap Screw, 3/8 x 1-1/2" Hex Head . . . . .	4
10	F001115	Wrought Washer, 3/8". . . . .	4
11	F011998	Elastic Stop Nut, 3/8" - 16. . . . .	4

**088684 DERAIL SKID GROUP**



O307 DERAIL SKID APPLICATION  
DIMENSION "A"

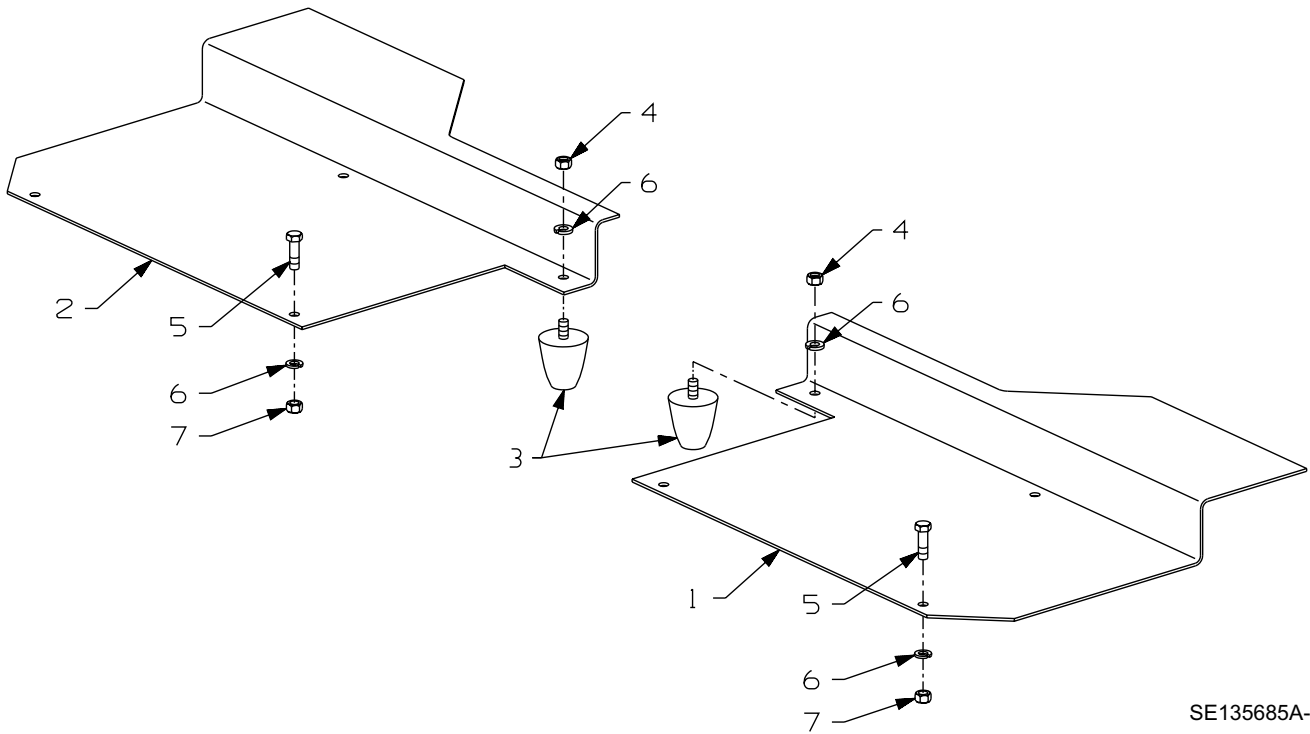
STEEL TREAD ..... 5"  
RUBBER TREAD ..... 6"

SE014515A-1

ITEM	PART NO	DESCRIPTION	QTY
	088684	DERAIL SKID GROUP.....	1
1	088685K	Derail Skid, LF / RR .....	1
2	088690K	Derail Skid, RF / LR .....	1



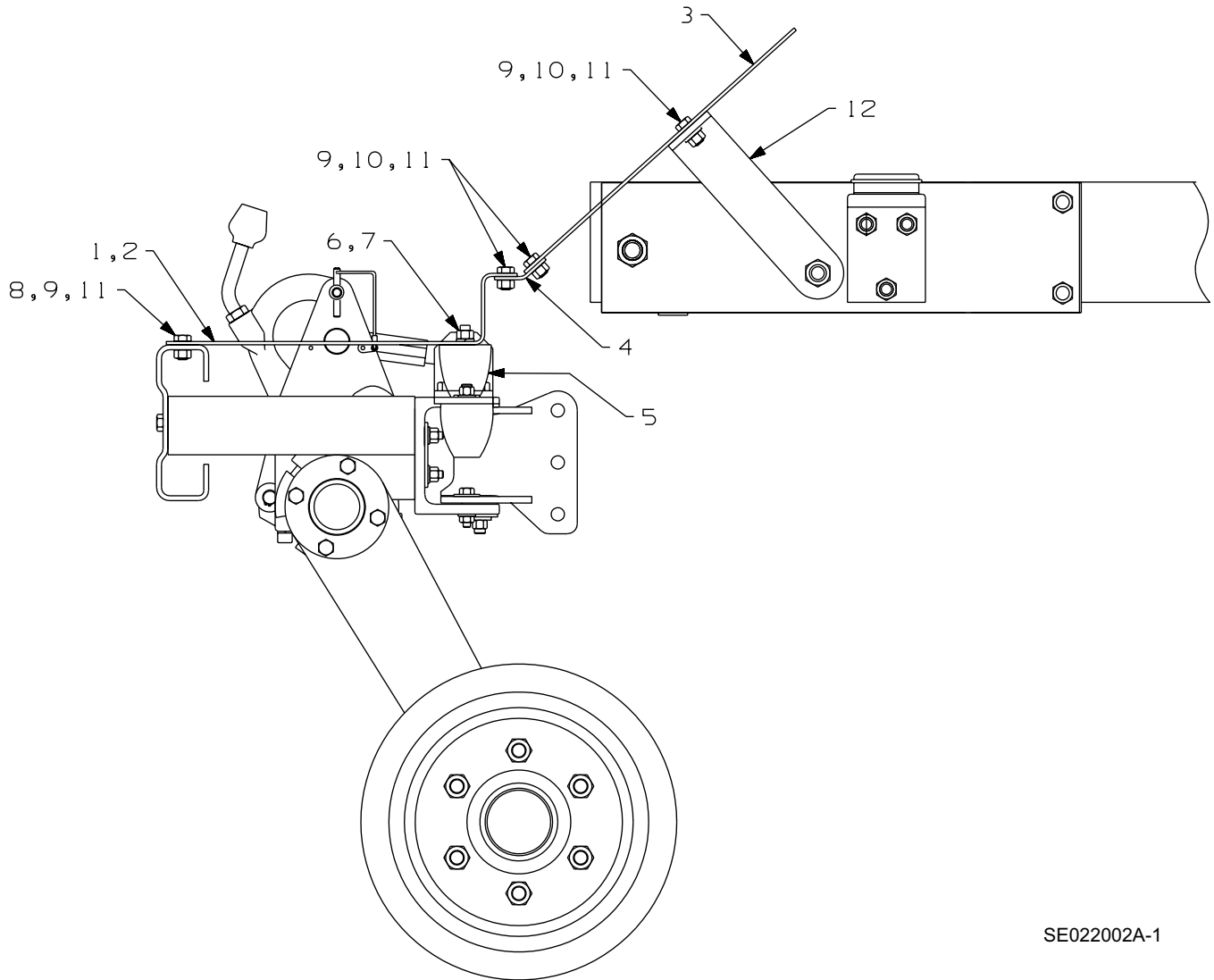
**135685 STEP PLATE GROUP - FRONT OR REAR**



SE135685A-1

ITEM	PART NO	DESCRIPTION	QTY
	135685	STEP PLATE GROUP - FRONT or REAR .....	1
1	135675	Step Plate - LF/RR .....	1
2	135676	Step Plate - RF/LR .....	1
3	F011732	Rubber Bumper .....	4
4	F016820	Hex Nut, 3/8"-24 .....	4
5	F001125	Cap Screw, 3/8-16 x 1-1/4" Hex Hd .....	4
6	F001025	Lock Washer, 3/8" .....	8
7	F007020	Hex Nut, 3/8"-16 .....	4

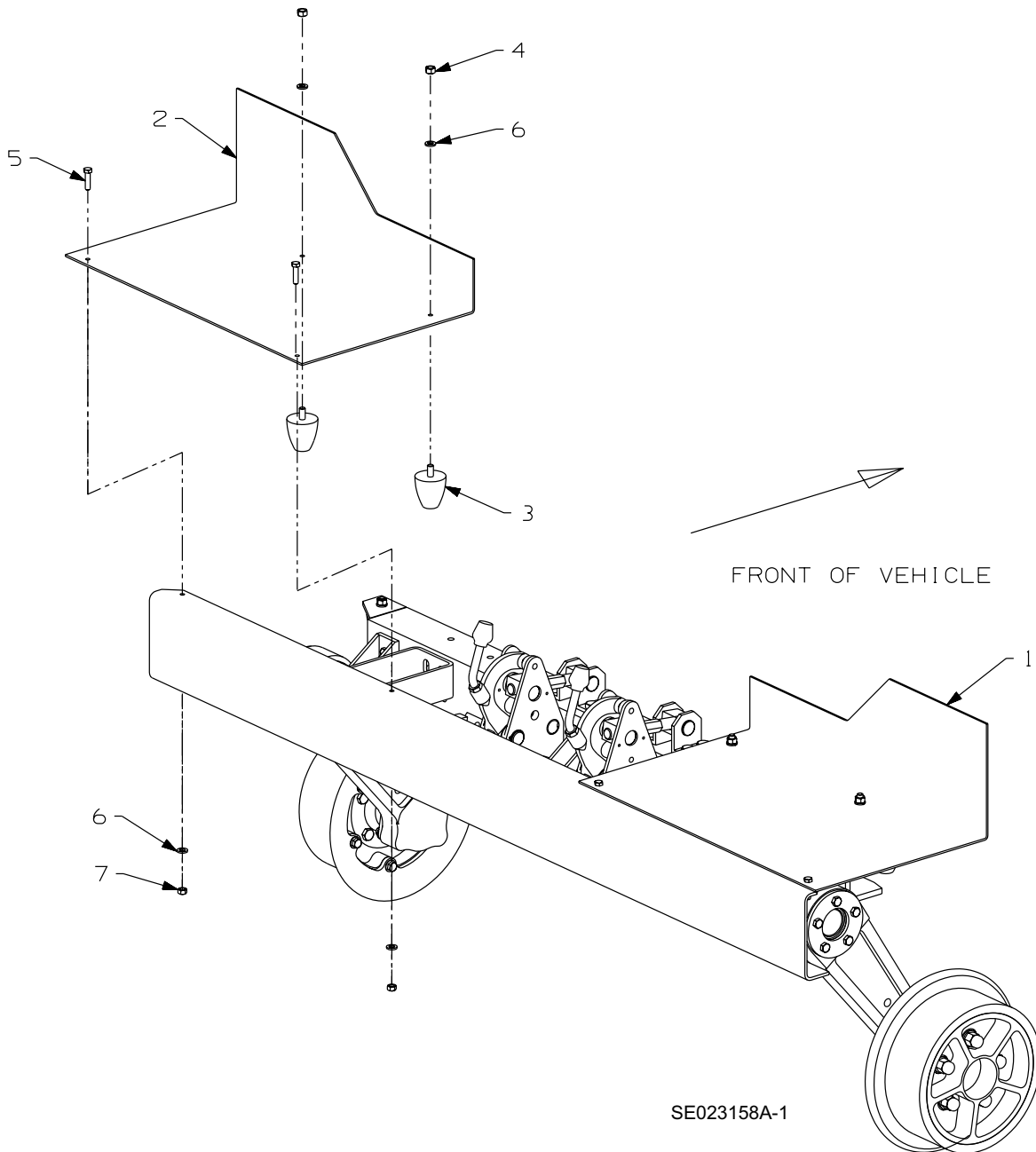
**171077 ALUMINUM STEP PLATE GROUP - FRONT**



SE022002A-1

ITEM	PART NO	DESCRIPTION	QTY
	171077	ALUMINUM STEP PLATE GROUP - FRONT . . . . .	1
1	171062	Step Plate . . . . .	1
2	171076	Step Plate . . . . .	1
3	171063	Plate . . . . .	2
4	171061	Bracket . . . . .	2
5	F011732	Rubber Bumper . . . . .	4
6	F016820	Hex, Nut, 3/8"-24 . . . . .	4
7	F001025	SAE Lock Washer, 3/8" . . . . .	4
8	F001125	Cap Screw, 3/8-16 x 1-1/4" Hex Hd . . . . .	4
9	F015922	Elastic Stop Nut, 3/8"-16 . . . . .	20
10	F001007	Cap Screw, 3/8-16 x 1" Hex Hd . . . . .	16
11	F009681	SAE Washer, 3/8" . . . . .	20
12	171078	Bracket . . . . .	2

**186109 ALUMINUM STEP PLATE GROUP - REAR**

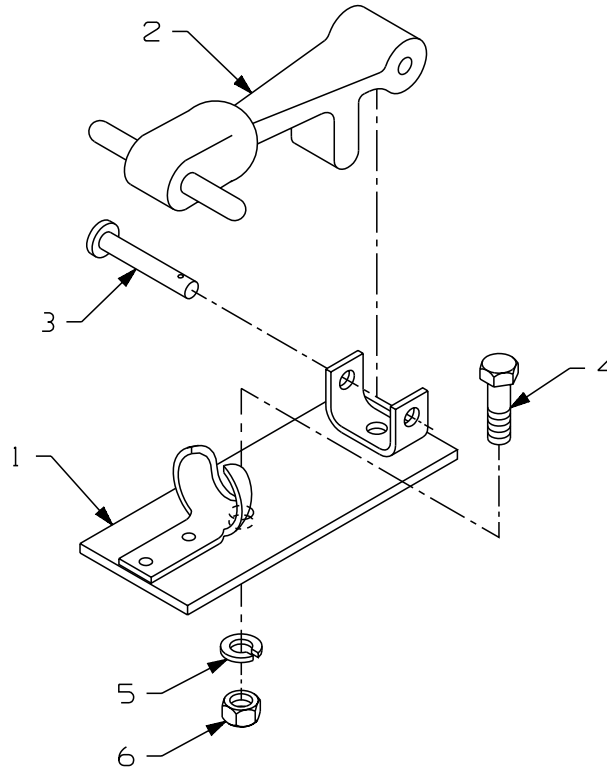


7

SE023158A-1

ITEM	PART NO	DESCRIPTION	QTY
	186109	ALUMINUM STEP PLATE GROUP - REAR .....	1
1	186110	Step Plate, Right Rear .....	1
2	186111	Step Plate, Left Rear .....	1
3	F011732	Rubber Bumper .....	4
4	F016820	Hex Nut, 3/8"-24 .....	4
5	F001125	Cap Screw, 3/8-16 x 1-1/4" Hex Hd .....	4
6	F001025	SAE Lock Washer, 3/8" .....	8
7	F007020	Hex Nut, 3/8"-16 .....	4

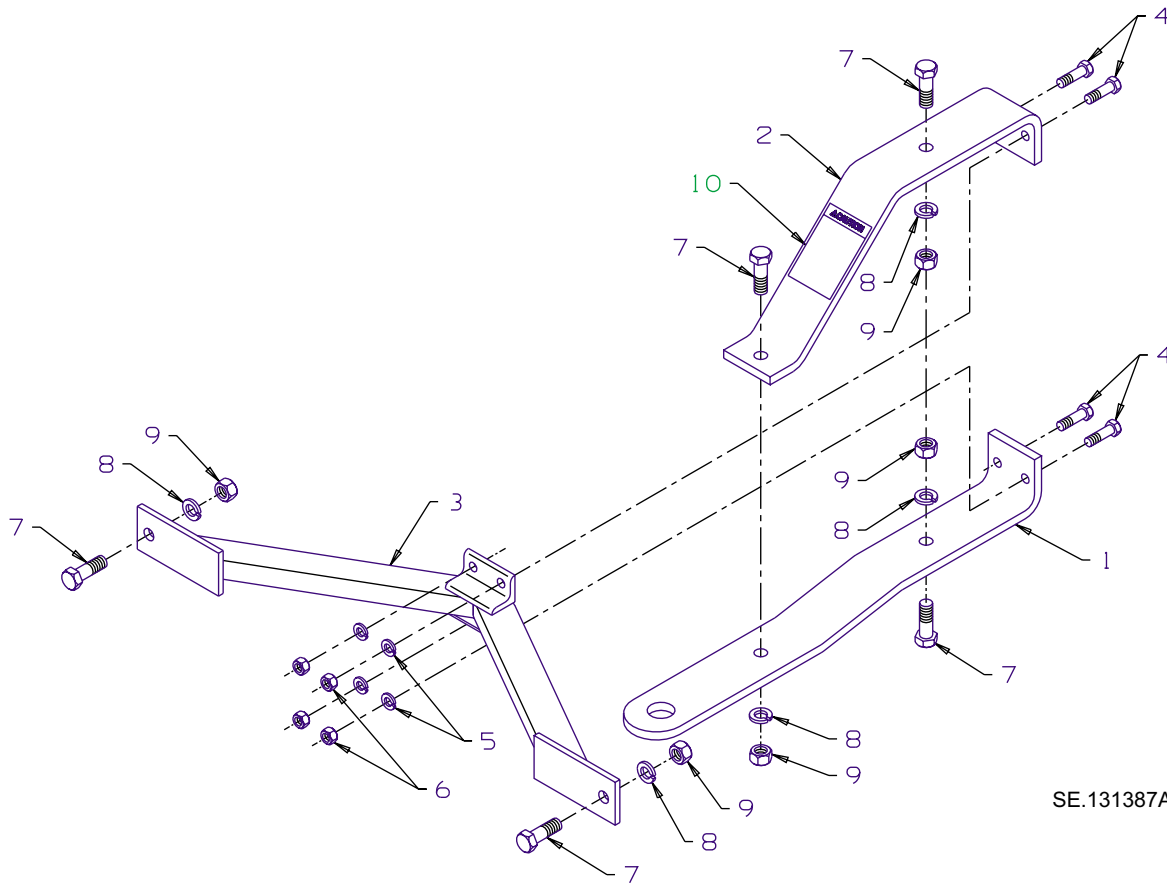
**131316 LIFT HANDLE LATCH GROUP**



SE131316A-1

ITEM	PART NO	DESCRIPTION	QTY
	131316	LIFT HANDLE LATCH GROUP .....	1
1	131317	Plate, Latch .....	2
2	F019306	Rubber Hook .....	2
3	F019307	Clevis Pin, 5/16 x 1-3/4" .....	2
4	F010792	Cap Screw, 3/8-16 x 1-1/4" Hex Hd .....	2
5	F001025	Lock Washer, 3/8" .....	2
6	F013687	Hex Nut, 3/8"-16 .....	2
7	F001450	Cotter Pin, 1/16 x 3/4" (for clevis pin) .....	2

131387 HITCH GROUP

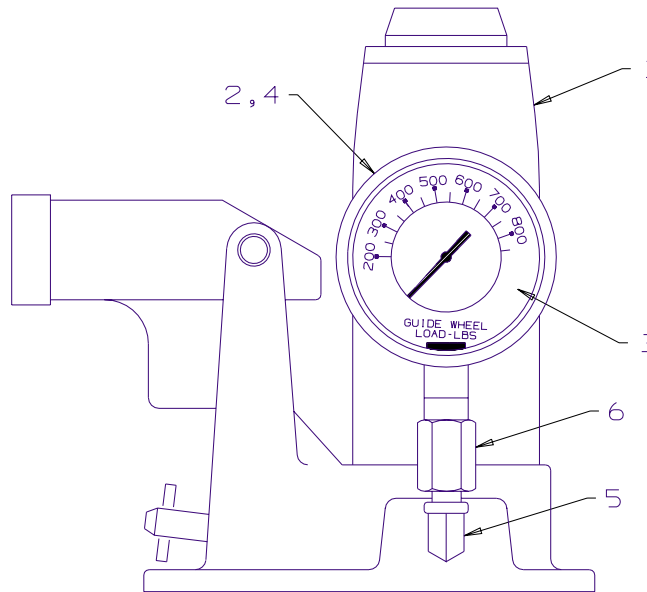


SE.131387A-1

ITEM	PART NO	DESCRIPTION	QTY
	131387	HITCH GROUP .....	1
1	131388	Hitch .....	1
2	131389	Brace, Upper .....	1
3	131390	Bracket, Support .....	1
4	F001125	Cap Screw, 3/8-16 x 1-1/4" Hex Hd .....	4
5	F001025	Lock Washer, 1/4" .....	4
6	F007020	Hex Nut, 3/8"-16 .....	4
7	F001090	Cap Screw, 1/2-13 x 1-1/2" Hex Hd .....	5
8	F001075	Lock Washer, 1/2" .....	5
9	F003598	Hex Nut, 1/2"-13 .....	5
10	138102	Decal, Caution - Use A.R.E.A. Coupler .....	1

7

**073527 WHEEL WEIGHING JACK**



SE073527A-1

ITEM	PART NO	DESCRIPTION	QTY
	073527	JACK ASSEMBLY .....	1
1	F025513	Hydraulic Jack .....	1
2	F024256	Gauge .....	1
3	154383	Decal, Gauge Face .....	1
4	156051	Decal, Warning - Misuse Of Product... ..	1
5	146353	90° Elbow, 1/8 M NPT x 1/8 F NPT .....	1
6	F023088	Adapter, 1/8 M NPT x 1/4 F NPT .....	1

**156020 STROBE LIGHT GROUP**

PART NO	DESCRIPTION	QTY
156020	STROBE LIGHT GROUP .....	1
F024799	Strobe Light .....	1
F014868	Switch .....	1
F040160	Wire, 16 ga. ....	120"
F040576	Wire, 16 ga. ....	120"
F009863	Butt Connector .....	2
F024813	Fuse, 1 amp .....	1
F017476	Fused Line Connector .....	1
F024812	Screw, #8 x 1/2" Self Tap .....	3

**TOOLS - STANDARD**

PART NO	DESCRIPTION	QTY
M006738	Tool Bag . . . . .	1
079792	Wrench, 1-1/8" Open End . . . . .	1
F003032	Wrench, 5/32" Hex Key . . . . .	1
F003031	Wrench, 3/16" Hex Key . . . . .	1
F012866	Wrench, 1/4" Hex Key . . . . .	1
F012794	Wrench, 5/16" Hex Key . . . . .	1

**TOOLS - OPTIONAL**

PART NO	DESCRIPTION	QTY
M019889	Wheel Caliper . . . . .	1
137386	RUBBER CORD REPLACEMENT TOOLS . . . . .	1
083132	Tool, Used To Separate Cords While Inserting . . . . .	1
137359	Tool, Used To Insert Cords Partially . . . . .	1
137371	Tool, Used To Insert Cords Fully . . . . .	1
137375	Tool, Mounts On Press Base . . . . .	1
137387	Tool, Mounts On Press Ram . . . . .	1

**154592 DECAL SERVICE GROUP**

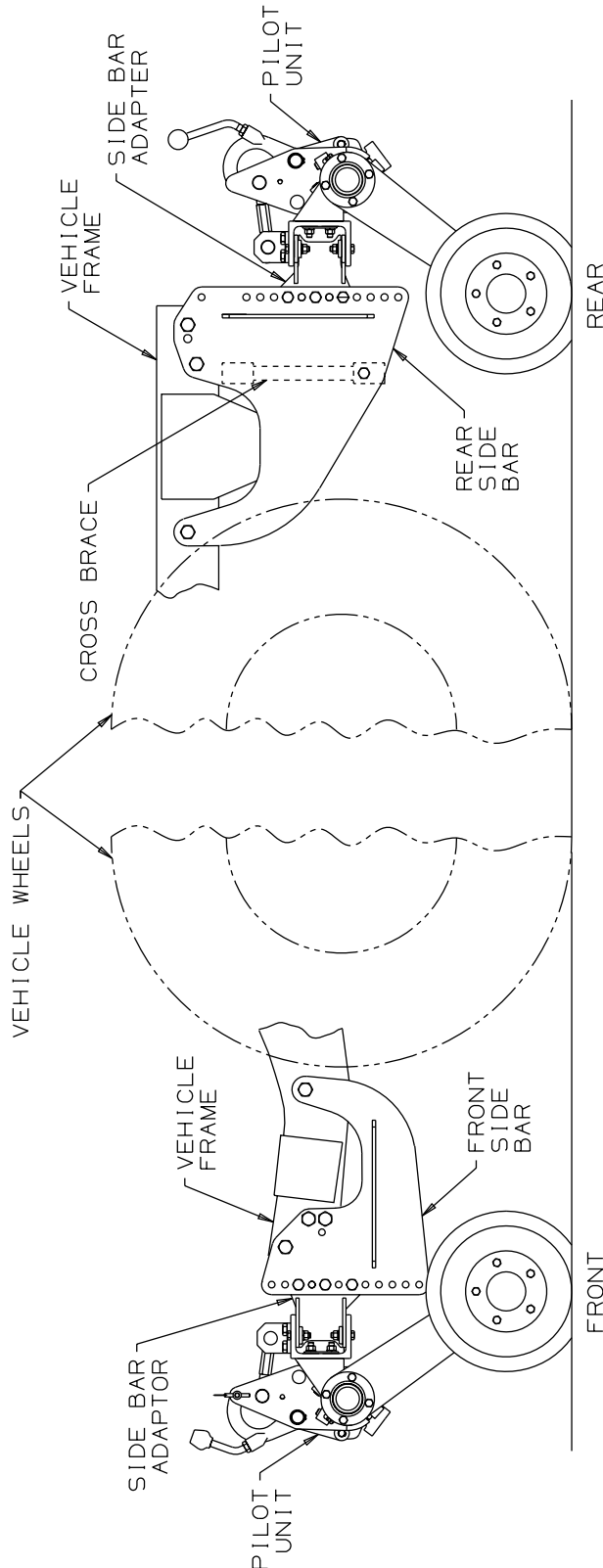
PART NO	DESCRIPTION	QTY
154592	DECAL SERVICE GROUP . . . . .	1
F018082	Decal, Safety Instructions: Lock Front Wheels ... . . . .	1
F018084	Decal, Operation . . . . .	2
162058	Decal, Fairmont Tamper Supplied Lift Handles... . . . .	4
140220	Decal, Warning: Do Not Operate This Machine Before ... . . . .	3
135742	Decal, Operating Instructions . . . . .	1
155007	Decal, HY-RAIL® Vehicle Completed By ... . . . .	1

**STEERING LOCK GROUPS**

Individual steering lock components are not available as repair parts. Steering lock groups are sold as complete replacement groups only. See vehicle application charts to find the correct steering lock group applicable to your make, model and year of vehicle.

### TYPICAL MOUNTING BRACKETS

This illustration shows typical mounting brackets that are common in most groups and rail pilot units, mounted on a vehicle. Mounting brackets and applications will vary from vehicle to vehicle. See Section 8, Vehicle Applications, to find the correct mounting bracket group applicable to your make, model and year of vehicle.





**FASTENER KITS FOR FRONT AND REAR BRACKET MOUNTING**

PART NO	DESCRIPTION	QTY
181460	FASTENER KIT . . . . .	1
F018650	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	8
F018861	Cap Screw, 1/2-13 x 2-1/4" Hex Hd . . . . .	10
F019762	Cap Screw, 5/8-11 x 1-1/2" Hex Hd . . . . .	4
F040637	Cap Screw, 3/4-10 x 1-3/4" Hex Hd . . . . .	2
F020672	Cap Screw, 3/4-10 x 5" Hex Hd . . . . .	4
F013500	Elastic Stop Nut, 1/2"-13. . . . .	18
F012452	Elastic Stop Nut, 5/8"-11. . . . .	4
F013633	Elastic Stop Nut, 3/4"-10. . . . .	6
F001267	Wrought Washer, 1/2". . . . .	18
181461	FASTENER KIT . . . . .	1
F018650	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	18
F019501	Cap Screw, 5/8-11 x 1-3/4" Hex Hd . . . . .	4
F013500	Elastic Stop Nut, 1/2"-13. . . . .	18
F012452	Elastic Stop Nut, 5/8"-11. . . . .	4
F001267	Wrought Washer, 1/2". . . . .	18
F023012	Hardened Washer. . . . .	4
181462	FASTENER KIT . . . . .	1
F018650	Cap Screw, 1/2-13 x 1-1/2" Hex Hd . . . . .	8
F018861	Cap Screw, 1/2-13 x 2-1/4" Hex Hd . . . . .	4
F019762	Cap Screw, 5/8-11 x 1-1/2" Hex Hd . . . . .	4
F023743	Cap Screw, 5/8-11 x 5-1/2" Hex Hd . . . . .	2
F040637	Cap Screw, 3/4-10 x 1-3/4" Hex Hd . . . . .	4
F013500	Elastic Stop Nut, 1/2"-13. . . . .	12
F012452	Elastic Stop Nut, 5/8"-11. . . . .	6
F013633	Elastic Stop Nut, 3/4"-10. . . . .	4
F001267	Wrought Washer, 1/2". . . . .	12
F023012	Hardened Washer. . . . .	6
F021137	Hardened Washer. . . . .	4
187178	FASTENER KIT . . . . .	1
F018650	Cap Screw, 1/2-13 x 1-1/2" GR 8 Hex Hd . . . . .	24
F020460	Cap Screw, 5/8-11 x 2" GR 8 Hex Hd. . . . .	4
F022173	Cap Screw, 3/4-10 x 2" GR 8 Hex Hd. . . . .	8
700564300	Cap Screw, 1/2-13 x 3" GR 8 Hex Hd. . . . .	6
F013500	Elastic Stop Nut . . . . .	24
F013633	Elastic Stop Nut, 3/4"-10. . . . .	8
F017188	Hex Elastic Stop Nut, 5/8"-11 . . . . .	4
F026081	Hex Flg Nut 1/2"-13 GR 8. . . . .	4
F024047	Washer . . . . .	18
F023012	Harden Washer. . . . .	8
F021137	Hardened Washer . . . . .	4

**158791 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
158791	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

162441	Side Bar, Left . . . . .	1
162442	Side Bar, Right . . . . .	1
F006383	Cap Screw, 3/4-10 x 5" GR 5 Hex Hd. . . . .	4
700666075	Hex Lock Nut, 3/4"-10. . . . .	4
158801	Brace Assembly . . . . .	1
134233	Bar . . . . .	6
164513	Bar . . . . .	2
F003566	Cap Screw, 5/8-11 x 1-1/2" GR 5 Hex Hd . . . . .	4
F021924	Hex Flg Nut, 5/8"-11 GR 5 . . . . .	4
168114	Plate . . . . .	1
168115	Plate . . . . .	1
168116	Tube . . . . .	4
F018861	Cap Screw, 1/2-13 x 2-1/4" GR 8 Hex Hd . . . . .	6
F014487	Elastic Stop Nut, 1/2"-13. . . . .	10
F023887	Cap Screw, M16 x 2.0 x 120 mm CL10.9 Hex Hd . . . . .	2
138400	Tube . . . . .	2
F018650	Cap Screw, 1/2-13 x 1-1/2" GR 8 Hex Hd . . . . .	4
F018650	Cap Screw, 1/2-13 x 1-1/2" GR 8 Hex Hd . . . . .	10
F013500	Elastic Stop Nut . . . . .	14
020951	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

137381	Side Bar . . . . .	1
137382	Side Bar . . . . .	1
163635	Brace End . . . . .	2
163634	Brace End . . . . .	2
F040637	Cap Screw, 3/4-10 x 1-3/4" GR 8 Hex Hd . . . . .	2
F018861	Cap Screw, 1/2-13 x 2-1/4" GR 8 Hex Hd . . . . .	4
F013633	Elastic Stop Nut, 3/4"-10. . . . .	2
019989	Rear Unit Application Drawing	

**158793 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
158793	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

159097	Side Bar - Left. . . . .	1
159098	Side Bar - Right . . . . .	1
158801	Brace . . . . .	1
134233	Spacer . . . . .	4
159101	Spacer . . . . .	2
159096	Spacer . . . . .	4
020952	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

125977	Side Bar - Right . . . . .	1
125975	Side Bar - Left. . . . .	1
163636	Brace End. . . . .	2
163634	Brace End. . . . .	2
019959	Rear Unit Application Drawing	

**159082 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
159082	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

159097	Side Bar - Left. . . . .	1
159098	Side Bar - Right . . . . .	1
158801	Brace . . . . .	1
134233	Spacer, .065" . . . . .	4
164513	Spacer . . . . .	4
159101	Spacer . . . . .	2
159096	Spacer . . . . .	4
020984	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

137666	Side Bar - Right . . . . .	1
137665	Side Bar - Left. . . . .	1
163634	Brace End. . . . .	1
163636	Brace End. . . . .	1
020042	Rear Unit Application Drawing	

**159311 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
159311	MOUNTING BRACKET GROUP .....	1
181462	Fastener Kit (for front and rear bracket mounting) .....	1

Parts For Front Mounting Brackets

159097	Side Bar - Left .....	1
159098	Side Bar - Right .....	1
158801	Brace .....	1
134233	Spacer, .065" .....	4
164513	Spacer .....	4
126002	Sleeve .....	2
159096	Spacer .....	4
020999	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

129153	Side Bar - Right .....	1
129155	Side Bar - Left .....	1
163634	Brace End .....	2
163635	Brace End .....	2
019989	Rear Unit Application Drawing	

**159848 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
159848	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1
<b>Parts For Front Mounting Brackets</b>		
159638	Side Bar, Right . . . . .	1
159642	Side Bar, Left . . . . .	1
F022036	Cap Screw, 1/2-13 x 1-1/4" GR 5 Hex Flg Hd . . . . .	12
F022037	Hex Flg Nut, 1/2"-13 GR 5 . . . . .	12
F001090	Cap Screw, 1/2-13 x 1-1/2" GR 5 Hex Hd . . . . .	8
F001075	SAE Lock Washer, 1/2" . . . . .	6
F003598	Hex Nut, 1/2"-13 GR 5 . . . . .	6
163636	Brace End . . . . .	1
163634	Brace End . . . . .	1
F024047	Washer . . . . .	4
021099	Front Unit Application Drawing	
<b>Parts For Rear Mounting Brackets</b>		
137674	Side Bar Assembly . . . . .	1
137675	Side Bar Assembly . . . . .	1
F001539	Cap Screw, 1/2-13 x 1-1/4" GR 5 Hex Hd . . . . .	4
F001075	SAE Lock Washer, 1/2" . . . . .	12
F003598	Hex Nut 1/2"-13 GR 5 . . . . .	12
F005192	Cap Screw, 5/8-11 x 1-3/4" GR 5 Hex Hd . . . . .	4
125978	Washer . . . . .	4
F001103	SAE Lock Washer, 5/8" . . . . .	4
F007023	Hex Nut, 5/8"-11 GR 5 . . . . .	4
163635	Brace End . . . . .	1
163634	Brace End . . . . .	1
F024047	Washer . . . . .	4
F013141k	Muffler Clamp . . . . .	1
021101	Rear Unit Application Drawing	

**159932 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
159932	MOUNTING BRACKET GROUP .....	1
181461	Fastener Kit (for front and rear bracket mounting) .....	1

Parts For Front Mounting Brackets

159642	Side Bar - Left .....	1
159638	Side Bar - Right .....	1
163634	Brace End .....	1
163636	Brace End .....	1
021104	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

159915	Side Bar - Right .....	1
159916	Side Bar - Left .....	1
163634	Brace End .....	1
163636	Brace End .....	1
022105	Rear Unit Application Drawing	

**161426 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
161426	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

162441	Side Bar, Left . . . . .	1
162442	Side Bar, Right . . . . .	1
F006383	Cap Screw, 3/4-10 x 5" GR 5 Hex Hd. . . . .	4
700666075	Hex Lock Nut, 3/4"-10. . . . .	4
158801	Brace Assembly . . . . .	1
134233	Bar . . . . .	4
164513	Bar . . . . .	2
F003566	Cap Screw, 5/8-11 x 1-1/2" GR 5 Hex Hd . . . . .	4
F021924	Hex Flg Nut, 5/8"-11 GR 5 . . . . .	4
168114	Plate . . . . .	1
168115	Plate . . . . .	1
168116	Tube . . . . .	4
F018861	Cap Screw, 1/2-13 x 2-1/4" GR 8 Hex Hd . . . . .	6
F014487	Elastic Stop Nut, 1/2"-13. . . . .	10
F023887	Cap Screw, M16 x 2.0 x 120 mm CL10.9 Hex Hd . . . . .	2
138400	Tube . . . . .	2
F001090	Cap Screw, 1/2-13 x 1-1/2" GR 5 Hex Hd . . . . .	4
020895	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

162073	Side Bar, Right . . . . .	1
162076	Side Bar, Left . . . . .	1
F015134	Cap Screw, 3/4-10 x 1-3/4" GR 5 Hex Hd . . . . .	4
099193	Washer . . . . .	4
F001354	SAE Lock Washer, 3/4" . . . . .	4
F013695	Hex Nut, 3/4"-10 GR 5 . . . . .	4
F002753	Cap Screw, 1/2-13 x 2-1/4" GR 5 Hex Hd . . . . .	2
F001075	SAE Lock Washer, 1/2" . . . . .	2
F003598	Hex Nut, 1/2"-13 GR 5 . . . . .	2
021263	Rear Unit Application Drawing	

**161644 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
161644	MOUNTING BRACKET GROUP . . . . .	1
181462	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

159097	Side Bar - Left . . . . .	1
159098	Side Bar - Right . . . . .	1
158801	Brace . . . . .	1
134233	Spacer . . . . .	4
159101	Spacer . . . . .	2
159096	Spacer . . . . .	4
021149	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

125977	Side Bar - Right . . . . .	1
125975	Side Bar - Left . . . . .	1
163635	Brace End . . . . .	2
163634	Brace End . . . . .	2
019959	Rear Unit Application Drawing	

**162445 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
162445	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

162442	Side Bar - Right . . . . .	1
162441	Side Bar - Left . . . . .	1
158801	Brace . . . . .	1
134233	Spacer . . . . .	6
168114	Plate, Right . . . . .	1
168115	Plate, Left . . . . .	1
168116	Tube . . . . .	4
138400	Tube . . . . .	2
164513	Spacer . . . . .	2
021264	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

137381	Side Bar - Right . . . . .	1
137382	Side Bar - Left . . . . .	1
163634	Brace End . . . . .	2
163635	Brace End . . . . .	2
020001	Rear Unit Application Drawing	



**162460 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
162460	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

162441	Side Bar, Left . . . . .	1
162442	Side Bar, Right . . . . .	1
F006383	Cap Screw, 3/4-10 x 5" GR 5 Hex Hd. . . . .	4
700666075	Hex Lock Nut, 3/4"-10. . . . .	4
158801	Brace Assembly . . . . .	1
134233	Bar . . . . .	4
164513	Bar . . . . .	2
F003566	Cap Screw, 5/8-11 x 1-1/2" GR 5 Hex Hd . . . . .	4
F021924	Hex Flg Nut, 5/8"-11 GR 5 . . . . .	4
168114	Plate . . . . .	1
168115	Plate . . . . .	1
168116	Tube . . . . .	4
F018861	Cap Screw, 1/2-13 x 2-1/4" GR 8 Hex Hd . . . . .	6
F014487	Elastic Stop Nut, 1/2"-13. . . . .	10
F023887	Cap Screw, M16 x 2.0 x 120 mm CL10.9 Hex Hd . . . . .	2
138400	Tube . . . . .	2
F001090	Cap Screw, 1/2-13 x 1-1/2" GR 5 Hex Hd . . . . .	4
020985	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

162457	Side Bar, Right . . . . .	1
162458	Side Bar, Left . . . . .	1
F015134	Cap Screw, 3/4-10 x 1-3/4" GR 5 Hex Hd . . . . .	4
099193	Washer . . . . .	4
F001354	SAE Lock Washer, 3/4" . . . . .	4
F013695	Hex Nut, 3/4"-10 GR 5 . . . . .	4
F002753	Cap Screw, 1/2-13 x 2-1/4" GR 5 Hex Hd . . . . .	2
F001075	SAE Lock Washer, 1/2" . . . . .	2
F003598	Hex Nut, 1/2"-13 GR 5 . . . . .	2
021272	Rear Unit Application Drawing	

**163169 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
163169	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

159638	Side Bar, Right . . . . .	1
159642	Side Bar, Left . . . . .	1
055954	Shim, .060" . . . . .	12
163634	Brace End . . . . .	1
163636	Brace End . . . . .	1
021296	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

137674	Side Bar - Left . . . . .	1
137675	Side Bar - Right . . . . .	1
163634	Brace End . . . . .	2
163635	Brace End . . . . .	2
020053	Rear Unit Application Drawing	

**167879 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
167879	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

168269	Side Bar, Right . . . . .	1
168268	Side Bar, Left . . . . .	1
055954	Spacer (use as required) . . . . .	12
163634	Brace End . . . . .	1
163636	Brace End . . . . .	1
021624	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

168266	Side Bar - Left . . . . .	1
168267	Side Bar - Right . . . . .	1
163634	Brace End . . . . .	2
163635	Brace End . . . . .	2
021625	Rear Unit Application Drawing	

**169032 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
169032	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

168269	Side Bar, Right . . . . .	1
168268	Side Bar, Left . . . . .	1
055954	Spacer (use as required) . . . . .	12
163634	Brace End . . . . .	1
163636	Brace End . . . . .	1
021837	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

137674	Side Bar - Left . . . . .	1
137675	Side Bar - Right . . . . .	1
163634	Brace End . . . . .	1
163635	Brace End . . . . .	1
021838	Rear Unit Application Drawing	

**170769 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
170769	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

170748	Side Bar, Right . . . . .	1
170747	Side Bar, Left . . . . .	1
055954	Spacer (use as required) . . . . .	12
163634	Brace End . . . . .	2
163635	Brace End . . . . .	2
021925	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

168266	Side Bar - Left . . . . .	1
168267	Side Bar - Right . . . . .	1
163634	Brace End . . . . .	2
163635	Brace End . . . . .	2
021625	Rear Unit Application Drawing	

**172493 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
172493	MOUNTING BRACKET GROUP . . . . .	1
181461	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

172489	Side Bar, Right . . . . .	1
172490	Side Bar, Left . . . . .	1
055954	Spacer (use as required) . . . . .	12
163634	Brace End . . . . .	2
163636	Brace End . . . . .	2
022109	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

159916	Side Bar - Left . . . . .	1
159915	Side Bar - Right . . . . .	1
163634	Brace End . . . . .	2
163636	Brace End . . . . .	2
022110	Rear Unit Application Drawing	

**174325 MOUNTING BRACKET GROUP  
FOR 0307 FRONT ONLY**

PART NO	DESCRIPTION	QTY
174325	MOUNTING BRACKET GROUP . . . . .	1

Parts For Front Mounting Brackets

168268	Side Bar, Left . . . . .	1
168269	Side Bar, Right . . . . .	1
F023386	Cap Screw, 1/2-13 x 1-1/2" GR 5 Hex Flg Hd . . . . .	16
F002965	SAE Washer, 1/2" . . . . .	14
163634	Brace End . . . . .	1
163636	Brace End . . . . .	1
F014487	Elastic Stop Nut, 1/2"-13 . . . . .	10
F022037	Hex Flg Nut, 1/2"-13 GR 5 . . . . .	8
F001095	Cap Screw, 1/2-13 x 1-3/4" GR 5 Hex Hd . . . . .	2
072897	Washer . . . . .	2
055954	Bar . . . . .	12
021305	Rear Unit Application Drawing	

**180024 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
180024	MOUNTING BRACKET GROUP .....	1
181462	Fastener Kit (for front and rear bracket mounting) .....	1

Parts For Front Mounting Brackets

184495	Side Bar, Left .....	1
184141	Side Bar, Right .....	1
163636	Brace End .....	2
163634	Brace End .....	2
022637	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

180018	Side Bar, Right .....	1
180022	Side Bar, Left .....	1
163635	Brace End .....	2
163634	Brace End .....	2
022638	Rear Unit Application Drawing	

**180717 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
180717	MOUNTING BRACKET GROUP .....	1
181462	Fastener Kit (for front and rear bracket mounting) .....	1

Parts For Front Mounting Brackets

184495	Side Bar, Left & Right .....	2
163636	Brace End .....	2
163634	Brace End .....	2
022637	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

180748	Side Bar, Right .....	1
180749	Side Bar, Left .....	1
163635	Brace End .....	2
163634	Brace End .....	2
022657	Rear Unit Application Drawing	

**184433 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
184433	MOUNTING BRACKET GROUP . . . . .	1
181462	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

184398	Side Bar, Left . . . . .	1
184399	Side Bar, Right . . . . .	1
184472	Bracket, Right . . . . .	1
184473	Bracket, Left . . . . .	1
023037	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

184421	Side Bar, Right . . . . .	1
184422	Side Bar, Left . . . . .	1
163635	Brace End . . . . .	2
163634	Brace End . . . . .	2
023038	Rear Unit Application Drawing	

**184459 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
184459	MOUNTING BRACKET GROUP . . . . .	1
181460	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

184477	Side Bar, Left . . . . .	1
184469	Side Bar, Right . . . . .	1
184486	Bracket, Right . . . . .	1
184487	Bracket, Left . . . . .	1
184480	Bar . . . . .	4
023046	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

184474	Side Bar, Right . . . . .	1
184475	Side Bar, Left . . . . .	1
163635	Brace End . . . . .	2
163634	Brace End . . . . .	2
023047	Rear Unit Application Drawing	

**186265 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
186265	MOUNTING BRACKET GROUP . . . . .	1
187178	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

184477	Side Bar, Left . . . . .	1
184469	Side Bar, Right . . . . .	1
F001267	Wrought Washer, 1/2". . . . .	18
F009425	SAE Washer, 5/8" . . . . .	2
184480	Bar . . . . .	4
184486	Bracket Right . . . . .	1
184487	Bracket Left. . . . .	1
184491	Shim . . . . .	2
023046	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

186244	Side Bar Left . . . . .	1
186245	Side Bar Right. . . . .	1
163634	Brace End. . . . .	2
163635	Brace End. . . . .	2
023206	Rear Unit Application Drawing	

**186268 MOUNTING BRACKET GROUP**

PART NO	DESCRIPTION	QTY
186268	MOUNTING BRACKET GROUP . . . . .	1
187178	Fastener Kit (for front and rear bracket mounting) . . . . .	1

Parts For Front Mounting Brackets

184398	Side Bar, Left . . . . .	1
184399	Side Bar, Right . . . . .	1
184390	Bar . . . . .	2
023037	Front Unit Application Drawing	

Parts For Rear Mounting Brackets

186244	Side Bar, Left . . . . .	1
186245	Side Bar, Right . . . . .	1
163634	Brace End. . . . .	2
163635	Brace End. . . . .	2
023206	Rear Unit Application Drawing	

**137353 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
137353	WHEEL MODIFICATION GROUP . . . . .	1
133505	WHEEL, 19-1/2 x 6" Rim . . . . .	5
133504	Decal, Ratings Represent... . . . .	1
136141	Decal, Wheel Nut Torque 120 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
133600	Spacer, Rear Wheel, 7/16" . . . . .	2
137039	Spacer, Front Wheel, 1/16" . . . . .	2
F016868	Wheel Nut, 9/16"-18 RH (1" Hex) . . . . .	32
137908	Stop Bolt, Left Front Wheel. . . . .	1
137909	Stop Bolt, Right Front Wheel . . . . .	1
M007298	Spring, Extension . . . . .	2
F019582	Clip . . . . .	2
F001099	Cap Screw, 5/16-18 x 1" Hex Hd . . . . .	2
F001100	SAE Lock Washer, 5/16" . . . . .	2
F007021	Hex Nut, 5/16"-18 . . . . .	2
137349	Spring, Compression . . . . .	2
019997	Wheel Modification Application Drawing	

**159849 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
159849	WHEEL MODIFICATION GROUP . . . . .	1
137670	WHEEL, 19-1/2 x 6-3/4" RIM . . . . .	5
137671	Decal, Ratings Represent... . . . .	1
136141	Decal, Wheel Nut Torque 120 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
133600	Spacer, 7/16" Front Wheel . . . . .	2
137882	Stop, Left Wheel . . . . .	1
137881	Stop, Right Wheel. . . . .	1
159920	Bar . . . . .	2
164036	Wheel Stud, Front Wheels . . . . .	16
F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	4
F001025	SAE Lock Washer, 3/8" . . . . .	4
F015839	Hex Lock Nut, 3/8"-24. . . . .	4
F001115	Wrought Washer, 3/8". . . . .	4
021102	Wheel Modification Application Drawing	



**161642 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
161642	WHEEL MODIFICATION GROUP . . . . .	1
139616	WHEEL, 16-1/2 x 6-3/4" . . . . .	5
139617	Decal, Ratings Represent... . . . .	1
136139	Decal, Wheel Nut Torque 95 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
161634	Wheel Stop, Left Front . . . . .	1
161645	Wheel Stop, Right Front . . . . .	1
M007298	Spring, Extension . . . . .	2
F019582	Clip . . . . .	2
F001099	Cap Screw, 5/16-18 x 1" Hex Hd . . . . .	2
F001100	SAE Lock Washer, 5/16" . . . . .	2
F007021	Hex Nut, 5/16"-18 . . . . .	2
021151	Wheel Modification Application Drawing	

**162451 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
162451	WHEEL MODIFICATION GROUP . . . . .	1
137670	WHEEL, 19-1/2 x 6-3/4" . . . . .	5
137671	Decal, Ratings Represent... . . . .	1
136141	Decal, Wheel Nut Torque 120 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
133600	Spacer, 7/16" Front Wheel . . . . .	2
164036	Wheel Stud, Front Wheels . . . . .	16
162449	Stop, Right Wheel . . . . .	1
162450	Stop, Left Wheel . . . . .	1
F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	4
F015839	Hex Lock Nut, 3/8"-24 . . . . .	4
159920	Bar . . . . .	2
F001115	Wrought Washer, 3/8" . . . . .	4
F001025	SAE Lock Washer, 3/8" . . . . .	4
021265	Wheel Modification Application Drawing	

**163620 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
163620	WHEEL MODIFICATION GROUP . . . . .	1
139616	WHEEL, 16-1/2 x 6-3/4" . . . . .	5
139617	Decal, Ratings Represent... . . . .	1
136139	Decal, Wheel Nut Torque 95 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
F003354	Cap Screw, 5/16-24 x 1" Hex Hd . . . . .	2
F011487	Hex Nut, 5/16"-24 . . . . .	2
F001100	SAE Lock Washer, 5/16" . . . . .	4
M007298	Spring, Extension . . . . .	2
F019582	Clip . . . . .	2
F001099	Cap Screw, 5/16-18 x 1" Hex Hd . . . . .	2
F007021	Hex Nut, 5/16"-18 . . . . .	2
021326	Wheel Modification Application Drawing	

**168072 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
168072	WHEEL MODIFICATION GROUP . . . . .	1
137670	WHEEL, 19-1/2 x 6" . . . . .	5
137671	Decal, Ratings Represent... . . . .	1
136141	Decal, Wheel Nut Torque 120 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
133600	Spacer, 7/16" Front Wheel . . . . .	2
164036	Wheel Stud, Front Wheels . . . . .	16
137881	Stop, Right Wheel . . . . .	1
137882	Stop, Left Wheel . . . . .	1
159920	Bar . . . . .	2
F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	4
F001025	SAE Lock Washer, 3/8" . . . . .	4
F015839	Hex Lock Nut, 3/8"-24 . . . . .	4
F001115	Wrought Washer, 3/8" . . . . .	4
021504	Wheel Modification Application Drawing	

**168290 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
168290	WHEEL MODIFICATION GROUP . . . . .	1
133505	WHEEL, 19-1/2 x 6" . . . . .	5
133504	Decal, Ratings Represent... . . . .	1
136141	Decal, Wheel Nut Torque 120 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
133600	Spacer, 7/16" Rear Wheel . . . . .	2
F025483	Wheel Stud, M14 x 1.5 x 91, Front Wheels . . . . .	16
168291	WHEEL SPACER, FRONT WHEELS. . . . .	2
164036	Wheel Stud . . . . .	6
162432	Decal, Warning: Studs In This Brake Drum... . . . .	1
F025796	Wheel Nut, M14 x 1.5, Front Wheels . . . . .	16
F025946	Wheel Nut . . . . .	32
162449	Stop, Right Wheel. . . . .	1
162450	Stop, Left Wheel . . . . .	1
F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	4
F015839	Hex Lock Nut, 3/8"-24. . . . .	4
159920	Bar . . . . .	2
F001115	Wrought Washer, 3/8". . . . .	4
F001025	SAE Lock Washer, 3/8" . . . . .	4
021613	Wheel Modification Application Drawing	

**168678 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
168678	WHEEL MODIFICATION GROUP . . . . .	1
168662	WHEEL, 19-1/2 x 6" . . . . .	5
168680	Decal, Ratings Represent... . . . .	1
162065	Decal, Wheel Nut Torque 250 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire . . . . .	1
F025918	Wheel Stud, 5/8"-18 . . . . .	12
175682	Wheel Stud . . . . .	12
F025919	Flanged Wheel Nut, 5/8"-18 . . . . .	24
162449	Stop, Right Wheel. . . . .	1
162450	Stop, Left Wheel . . . . .	1
F016365	Cap Screw, 3/8-24 x 1-1/2" Hex Hd . . . . .	4
F015839	Hex Lock Nut, 3/8"-24. . . . .	4
159920	Bar . . . . .	2
F001115	Wrought Washer, 3/8". . . . .	4
F001025	SAE Lock Washer, 3/8" . . . . .	4
021718	Wheel Modification Application Drawing	

**169031 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
169031	WHEEL MODIFICATION GROUP . . . . .	1
133242	WHEEL, 19-1/2 x 6" . . . . .	5
133243	Decal, Ratings Represent... . . . .	1
170774	Decal, Wheel Nut Torque 140 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire . . . . .	1
179142	Decal, Wheel Nut Torque... . . . .	5
169329	Decal, This Vehicle Is Equipped With... . . . .	2
184106	Hex Flange Nut. . . . .	32
F025796	Wheel Nut, 60° Cone, Rear Spacer . . . . .	16
171054	WHEEL SPACER, REAR . . . . .	2
F026230	Wheel Stud . . . . .	8
162432	Decal, Warning: Studs In This Brake Drum... . . . .	1
171051	Wheel Spacer, Front. . . . .	2
F025952	Shock Absorber . . . . .	2
169037	Bushing. . . . .	4
169036	Tube . . . . .	2
F002929	SAE Washer, 3/4" . . . . .	16
044564	Bar . . . . .	2
116904	Bar . . . . .	2
021758	Wheel Modification Application Drawing	
021810	Steering Stop Application Drawing	

**170050 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
170050	WHEEL MODIFICATION GROUP . . . . .	1
137649	WHEEL, 19-1/2 x 6" . . . . .	5
137648	Decal, Ratings Represent... . . . .	1
170774	Decal, Wheel Nut Torque 140 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
170736	Spacer, Front Wheel, 7/16" . . . . .	2
170735	SPACER, REAR WHEEL, 1-1/4" . . . . .	2
178170	Wheel Stud . . . . .	16
162432	Decal, Warning: Studs In This Brake Drum... . . . .	1
180015	Stud . . . . .	16
179142	Decal, Wheel Nut Torque... . . . .	5
179141	Hex Flange Nut. . . . .	32
F017989	Wheel Nut, 9/16"-18 RH . . . . .	16
060814	Wheel Stop (weld on) . . . . .	2
M007298	Spring, Extension . . . . .	2
F019582	Clip . . . . .	2
F001099	Cap Screw, 5/16-18 x 1" Hex Hd . . . . .	2
F001100	SAE Lock Washer, 5/16" . . . . .	2
F007021	Hex Nut, 5/16"-18 . . . . .	2
021870	Wheel Modification Application Drawing	

**170051 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
170051	WHEEL MODIFICATION GROUP . . . . .	1
137649	WHEEL, 19-1/2 x 6" . . . . .	5
137648	Decal, Ratings Represent... . . . .	1
170774	Decal, Wheel Nut Torque 140 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
170736	Spacer, Front Wheel, 7/16" . . . . .	2
170735	SPACER, REAR WHEEL, 1-1/4" . . . . .	2
178170	Wheel Stud . . . . .	16
162432	Decal, Warning: Studs In This Brake Drum... . . . .	1
180015	Stud . . . . .	16
179142	Decal, Wheel Nut Torque... . . . .	5
179141	Hex Flange Nut. . . . .	32
F017989	Wheel Nut, 9/16"-18 RH . . . . .	16
170390	Wheel Stop (weld on) . . . . .	2
M007298	Spring, Extension . . . . .	2
F019582	Clip . . . . .	2
F001099	Cap Screw, 5/16-18 x 1" Hex Hd . . . . .	2
F001100	SAE Lock Washer, 5/16" . . . . .	2
F007021	Hex Nut, 5/16"-18 . . . . .	2
137349	Spring, Compression . . . . .	2
021871	Wheel Modification Application Drawing	

**172501 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
172501	WHEEL MODIFICATION GROUP . . . . .	1
133242	WHEEL, 19-1/2 x 6" . . . . .	5
133243	Decal, Ratings Represent... . . . .	1
170774	Decal, Wheel Nut Torque 140 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire . . . . .	1
184106	Hex Flange Nut. . . . .	32
179142	Decal, Wheel Nut Torque... . . . .	5
169329	Decal, This Vehicle Is Equipped With... . . . .	2
F025796	Wheel Nut. . . . .	16
171054	WHEEL SPACER, REAR . . . . .	2
F026230	Wheel Stud . . . . .	8
162432	Decal, Warning: Studs In This Brake Drum... . . . .	1
171051	Wheel Spacer, Front. . . . .	2
F025952	Shock Absorber . . . . .	2
169037	Bushing. . . . .	4
169036	Tube . . . . .	2
F002929	SAE Washer, 3/4" . . . . .	16
044564	Bar . . . . .	2
172498	Bar . . . . .	2
021758	Wheel Modification Application Drawing	
022111	Steering Stop Application Drawing	

**180025 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
180025	WHEEL MODIFICATION GROUP . . . . .	1
181498	WHEEL, 19-1/2 x 6" . . . . .	5
181508	Decal, Ratings Represent... . . . .	1
136140	Decal, Wheel Nut Torque 100 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
022739	Wheel Modification Application Drawing	

**180718 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
180718	WHEEL MODIFICATION GROUP . . . . .	1
180780	WHEEL, 19-1/2 x 6" . . . . .	5
181490	Decal, Ratings Represent... . . . .	1
162065	Decal, Wheel Nut Torque 250 Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
181491	Stud . . . . .	20
F025919	Hex Flange Nut. . . . .	20
022714	Wheel Modification Application Drawing	

**184448 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
184448	WHEEL MODIFICATION GROUP . . . . .	1
181612	WHEEL, 19-1/2 x 6" . . . . .	5
184150	Decal, Ratings Represent... . . . .	1
184075	Decal, Wheel Nut Torque 175 Dry Foot Pounds . . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
186130	Spacer . . . . .	2
184550	Hex Flange Nut. . . . .	32
188359	Wheel Stop Assembly. . . . .	2
F014801	Hose Clamp . . . . .	3
F002355	Cap Screw, 1/4-20 x 3/4" GR 5 Hex Hd . . . . .	3
F013588	Elastic Stop Nut, 1/4"-20. . . . .	3
187235	Bar . . . . .	2
187092	Bar . . . . .	1
F019742	Cap Screw, 3/8-16 x 1-3/4" GR 8 Hex Hd . . . . .	2
F011998	Elastic Stop Nut, 38-16. . . . .	2
F006471	Cap Screw, 1/4-20 x 1-3/4" GR5 Hex Hd . . . . .	2
023214	Wheel Modification Application Drawing	
023412	Steering Stop Application Drawing	



**188439 WHEEL MODIFICATION GROUP**

PART NO	DESCRIPTION	QTY
188439	WHEEL MODIFICATION GROUP . . . . .	1
181612	WHEEL, 19-1/2 x 6" . . . . .	5
184150	Decal, Ratings Represent... . . . .	1
184075	Decal, Wheel Nut Torque 175 Dry Foot Pounds. . . . .	1
161453	Decal, Warning: When Wheel/Tire... . . . .	1
186130	Spacer . . . . .	2
184550	Hex Flange Nut. . . . .	32
188436	Wheel Stop Assembly. . . . .	1
188437	Wheel Stop Assembly. . . . .	1
F014801	Hose Clamp . . . . .	3
F002355	Cap Screw, 1/4-20 x 3/4" GR 5 Hex Hd . . . . .	3
F013588	Elastic Stop Nut, 1/4"-20 . . . . .	3
187091	Bar . . . . .	2
187092	Bar . . . . .	1
F019742	Cap Screw, 3/8-16 x 1-3/4" GR 8 Hex Hd . . . . .	4
F011998	Elastic Stop Nut, 3/8"-16. . . . .	4
023414	Wheel Modification Application Drawing	
023413	Steering Stop Application Drawing	

**121658 WHEEL HOUSING MODIFICATION GROUP - CHEVROLET AND GMC ONLY**

PART NO	DESCRIPTION	QTY
121658	WHEEL HOUSING MODIFICATION GROUP . . . . .	1
118074	Sheet, 4 x 53" . . . . .	2
118075	Sheet, 4 x 6-1/2" . . . . .	4
F009602	Self Tapping Screw, #10 x 1/2" Hex Flg Hd . . . . .	120
F001118	Cap Screw, 5/16-18 x 1-1/2" Carriage Hd . . . . .	6
F007120	Hex Grip Nut, 5/16"-18 . . . . .	6
F022221	Caulking . . . . .	1
017280	Rear Wheel Housing Modification Drawing - Metal Floor	
017281	Rear Wheel Housing Modification Drawing - Wood Floor1	

**121659 WHEEL HOUSING MODIFICATION GROUP - FORD ONLY**

PART NO	DESCRIPTION	QTY
121659	WHEEL HOUSING MODIFICATION GROUP . . . . .	1
118016	Sheet, 4 x 15" . . . . .	2
118017	Sheet, 4 x 17-1/2" . . . . .	4
118018	Sheet, 1-1/2 x 6-1/2" . . . . .	4
F009602	Self Tapping Screw, #10 x 1/2" Hex Flg Hd . . . . .	120
F022221	Caulking . . . . .	1
017271	Rear Wheel Housing Modification Drawing	



**SECTION 8 - VEHICLE APPLICATIONS**  
**TABLE OF CONTENTS**

1996 CHEVROLET / GMC .....	8 - 2
1997 CHEVROLET / GMC .....	8 - 8
1998 CHEVROLET / GMC .....	8 - 15
1999 CHEVROLET / GMC .....	8 - 22
2000 CHEVROLET / GMC .....	8 - 29
1996 FORD .....	8 - 31
1997 FORD .....	8 - 39
1998 FORD .....	8 - 45
1999 FORD .....	8 - 48
2000 FORD .....	8 - 60

1996 CHEV/GMC  
C20753 4 X 2  
EXTENDED CAB  
7,200 GVWR

1996 CHEV/GMC  
C20903 4 X 2  
REGULAR AND  
CHASSIS CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170019 . . . . .	170594
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	170769 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168678 . . . . .	162451
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021925 . . . . .	021296
Application Drawing - Rear . . . . .	021625 . . . . .	020053

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 CHEV/GMC C20903 4 X 2 REGULAR AND CHASSIS CAB 8,600 GVWR	1996 CHEV/GMC K20903 4 X 4 REGULAR AND CHASSIS CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170597 . . . . .	170600
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168290 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021296 . . . . .	021837
Application Drawing - Rear . . . . .	020053 . . . . .	021838

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 CHEV/GMC	1996 CHEV/GMC
C20906 4 X 2	K20906 4 X 4
SUBURBAN	SUBURBAN
8,600 GVWR	8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170699 . . . . .	172499
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159932 . . . . .	172493
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	172501
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021104 . . . . .	022109
Application Drawing - Rear . . . . .	021105 . . . . .	022110

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1996 CHEV/GMC  
C20953 4 X 2  
EXTENDED CAB  
8,600 GVWR

1996 CHEV/GMC  
C20953 4 X 2  
EXTENDED CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170597
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	168290
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021296 . . . . .	021296
Application Drawing - Rear . . . . .	020053 . . . . .	020053

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		



1996 CHEV/GMC  
K20953 4 X 4  
EXTENDED CAB  
8,600 GVWR

1996 CHEV/GMC  
C30933 4 X 2  
REGULAR AND  
CHASSIS CAB  
9,000 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170600 . . . . .	170692
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	168072
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021296
Application Drawing - Rear . . . . .	021838 . . . . .	020053

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 CHEV/GMC K30903 4 X 4 REGULAR AND CHASSIS CAB 9,200 GVWR	1996 CHEV/GMC C30943 4 X 2 CREW AND CHASSIS CAB 9,000 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	171037 . . . . .	170695
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	159848
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	159849
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021099
Application Drawing - Rear . . . . .	021838 . . . . .	021101

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 CHEV/GMC  
C20753 4 X 2  
EXTENDED CAB  
7,200 GVWR

1997 CHEV/GMC  
K20753 4 X 4  
EXTENDED CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170019 . . . . .	176596
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	170769 . . . . .	167879
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168678 . . . . .	169031
Wheel Housing Modification . . . . .	_____ . . . . .	_____
Application Drawing - Front . . . . .	021925 . . . . .	021624
Application Drawing - Rear . . . . .	021625 . . . . .	021625

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1997 CHEV/GMC C20903 4 X 2 REGULAR AND CHASSIS CAB 8,600 GVWR	1997 CHEV/GMC C20903 4 X 2 REGULAR AND CHASSIS CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170597
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	168290
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021296 . . . . .	021296
Application Drawing - Rear . . . . .	020053 . . . . .	020053

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 CHEV/GMC K20903 4 X 4 REGULAR AND CHASSIS CAB 8,600 GVWR	1997 CHEV/GMC C20906 4 X 2 SUBURBAN 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170600 . . . . .	170669
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	159932
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	162451
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021104
Application Drawing - Rear . . . . .	021838 . . . . .	021105

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 CHEV/GMC K20906 4 X 4 SUBURBAN 8,600 GVWR	1997 CHEV/GMC C20953 4 X 2 EXTENDED CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	172499 . . . . .	170594
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	172493 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	172501 . . . . .	162451
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	022109 . . . . .	021296
Application Drawing - Rear . . . . .	022110 . . . . .	020053

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 CHEV/GMC C20953 4 X 2 EXTENDED CAB 8,600 GVWR	1997 CHEV/GMC K20953 4 X 4 EXTENDED CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170597 . . . . .	170600
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168290 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021296 . . . . .	021837
Application Drawing - Rear . . . . .	020053 . . . . .	021838

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1997 CHEV/GMC C30903 4 X 2 REGULAR AND CHASSIS CAB 9,000 GVWR	1997 CHEV/GMC K30903 4 X 4 REGULAR AND CHASSIS CAB WITH SRW 9,200 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170692 . . . . .	171037
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168072 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	021837
Application Drawing - Rear . . . . .	020053 . . . . .	021838

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option



1997 CHEV/GMC C30943 4 X 2 CREW AND CHASSIS CAB 9,000 GVWR	1997 CHEV/GMC K30943 4 X 4 REGULAR AND CHASSIS CAB WITH SRW 9,200 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170695 . . . . .	171037
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159848 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	159849 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021099 . . . . .	021837
Application Drawing - Rear . . . . .	021101 . . . . .	021838

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1998 CHEV/GMC  
C20753 4 X 2  
EXTENDED CAB  
7,200 GVWR

1998 CHEV/GMC  
K20753 4 X 4  
EXTENDED CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170019 . . . . .	176596
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	170769 . . . . .	167879
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168678 . . . . .	169031
Wheel Housing Modification . . . . .	_____ . . . . .	_____
Application Drawing - Front . . . . .	021925 . . . . .	021624
Application Drawing - Rear . . . . .	021625 . . . . .	021625

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 CHEV/GMC C20903 4 X 2 REGULAR AND CHASSIS CAB 8,600 GVWR	1998 CHEV/GMC K20903 4 X 4 REGULAR AND CHASSIS CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170600
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021296 . . . . .	021837
Application Drawing - Rear . . . . .	020053 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 CHEV/GMC	1998 CHEV/GMC
C20906 4 X 2	K20906 4 X 4
SUBURBAN	SUBURBAN
8,600 GVWR	8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170669 . . . . .	172499
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159932 . . . . .	172493
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	172501
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	022116
Application Drawing - Rear . . . . .	022110 . . . . .	022110

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 CHEV/GMC C20953 4 X 2 EXTENDED CAB 8,600 GVWR	1998 CHEV/GMC C20953 4 X 2 EXTENDED CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170597
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	168290
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021305 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 CHEV/GMC  
K20953 4 X 4  
EXTENDED CAB  
8,600 GVWR

1998 CHEV/GMC  
C30903 4 X 2  
REGULAR AND  
CHASSIS CAB  
9,000 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170600 . . . . .	170692
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	168072
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 CHEV/GMC K30903 4 X 4 REGULAR AND CHASSIS CAB WITH SRW 9,200 GVWR	1998 CHEV/GMC C30943 4 X 2 CREW AND CHASSIS CAB 9,000 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	171037 . . . . .	170695
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	163169
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	159849
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1998 CHEV/GMC K30943 4 X 4 CREW AND CHASSIS CAB WITH SRW 9,200 GVWR	1998 CHEV/GMC C30943 4 X 2 SIX MAN CREW CAB 9,000 / 9,600 / 10,000 GVWR 0307 FRONT 0813 REAR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	171037 . . . . .	1743324
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	169032 . . . . .	174325
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	169031 . . . . .	159849
Wheel Housing Modification . . . . .	_____ . . . . .	121658
Application Drawing - Front . . . . .	021837 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	022221

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option



1999 CHEV/GMC  
K20753 4 X 4  
EXTENDED CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	176596
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	167879
Steering Lock . . . . .	169632
Wheel Modification . . . . .	169031
Application Drawing - Front . . . . .	021837
Application Drawing - Rear . . . . .	021625

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Step Plates . . . . .	135685
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option

1999 CHEV/GMC C20903 4 X 2 REGULAR AND CHASSIS CAB 8,600 GVWR	1999 CHEV/GMC K20903 4 X 4 REGULAR AND CHASSIS CAB 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170600
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	021837
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 CHEV/GMC	1999 CHEV/GMC
C20906 4 X 2	K20906 4 X 4
SUBURBAN	SUBURBAN
8,600 GVWR	8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170669 . . . . .	172499
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159932 . . . . .	172493
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	172501
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	022116
Application Drawing - Rear . . . . .	022110 . . . . .	022110

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 CHEV/GMC  
C20953 4 X 2  
EXTENDED CAB  
8,600 GVWR

1999 CHEV/GMC  
K20953 4 X 4  
EXTENDED CAB  
8,600 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170594 . . . . .	170600
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	162451 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	021837
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 CHEV/GMC C30903 4 X 2 REGULAR AND CHASSIS CAB WITH SRW 9,000 GVWR	1999 CHEV/GMC K30903 4 X 4 REGULAR AND CHASSIS CAB WITH SRW 9,200 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170692 . . . . .	171037
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168072 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	021837
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 CHEV/GMC C30943 4 X 2 CREW CAB WITH SRW 9,000 GVWR	1999 CHEV/GMC C30943 4 X 2 SIX MAN CREW CAB 9,000 / 9,600 / 10,000 GVWR 0307 FRONT 0813 REAR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170695 . . . . .	174324
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	174325
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	159849 . . . . .	159849
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021305 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	022221

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 CHEV/GMC  
K30943 4 X 4  
CREW AND  
CHASSIS CAB  
WITH SRW  
9,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	171037
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	169032
Steering Lock . . . . .	169632
Wheel Modification . . . . .	169031
Wheel Housing Modification . . . . .	_____
Application Drawing - Front . . . . .	021837
Application Drawing - Rear . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Step Plates . . . . .	135685
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option

2000 CHEV/GMC C30903 4 X 2 CHASSIS CAB WITH SRW 9,000 GVWR	2000 CHEV/GMC K30903 4 X 4 CHASSIS CAB WITH SRW 9,200 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170692 . . . . .	171037
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	169032
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	168072 . . . . .	169031
Wheel Housing Modification . . . . .	121658 . . . . .	_____
Application Drawing - Front . . . . .	021305 . . . . .	021837
Application Drawing - Rear . . . . .	021301 . . . . .	021301

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		



2000 CHEV/GMC C30943 4 X 2 CREW CAB WITH SRW 9,000 GVWR	2000 CHEV/GMC C30903 4 X 2 6 MAN CREW AND CHASSIS CAB 9,000 / 9,200 / 10,000 GVWR 0307 FRONT 0813 REAR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170695 . . . . .	174324
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	163169 . . . . .	174325
Steering Lock . . . . .	169632 . . . . .	169632
Wheel Modification . . . . .	159849 . . . . .	159849
Wheel Housing Modification . . . . .	121658 . . . . .	121658
Application Drawing - Front . . . . .	021305 . . . . .	021305
Application Drawing - Rear . . . . .	021301 . . . . .	022221

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1996 FORD  
BRONCO 4 X 4  
6,300 GVWR

1996 FORD  
F150 4 X 2  
REGULAR CAB  
STYLESIDE  
6,100/6,250 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	168090 . . . . .	168093
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159082 . . . . .	161644
Steering Lock . . . . .	168091 . . . . .	168091
Wheel Modification . . . . .	163620 . . . . .	161642
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020984 . . . . .	021149
Application Drawing - Rear . . . . .	020024 . . . . .	019959

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 FORD F150 4 X 2 SUPER CAB STYLESIDE 6,050/6,250 GVWR	1996 FORD F150 4 X 4 REGULAR CAB STYLESIDE 6,100/6,250 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	168093 . . . . .	168092
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	161644 . . . . .	158793
Steering Lock . . . . .	168091 . . . . .	168091
Wheel Modification . . . . .	161642 . . . . .	163620
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	021149 . . . . .	020952
Application Drawing - Rear . . . . .	019959 . . . . .	019959

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 FORD F150 4 X 4 SUPER CAB STYLESIDE 6,250/6,250 GVWR	1996 FORD F250 HD 4 X 2 REGULAR CAB STYLESIDE 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	168092 . . . . .	159312
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	158793 . . . . .	159311
Steering Lock . . . . .	168091 . . . . .	158687
Wheel Modification . . . . .	163620 . . . . .	137353
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020952 . . . . .	020999
Application Drawing - Rear . . . . .	019959 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 FORD F250 HD 4 X 2 SUPER CAB STYLESIDE 8,800 GVWR	1996 FORD F250 HD 4 X 4 REGULAR CAB STYLESIDE 8,600 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	159312 . . . . .	170387
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159311 . . . . .	158791
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	137353 . . . . .	170050
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020999 . . . . .	020951
Application Drawing - Rear . . . . .	019989 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1996 FORD	1996 FORD
F250 HD 4 X 4	F350 4 X 2
SUPER CAB	CREW CAB
STYLESIDE	STYLESIDE
8,800 GVWR	WITH SRW
	9,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170387 . . . . .	159312
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	158791 . . . . .	159311
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170050 . . . . .	137353
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020951 . . . . .	020999
Application Drawing - Rear . . . . .	019989 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1996 FORD	1996 FORD
F350 4 X 4	F350 4 X 4
REGULAR CAB	CREW CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,000 GVWR	9,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170391 . . . . .	170391
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	162445 . . . . .	162445
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	170051
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	021264 . . . . .	021264
Application Drawing - Rear . . . . .	020001 . . . . .	020001

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1996 FORD	1996 FORD
F350 4 X 4	F350 4 X 4
REGULAR CAB	REGULAR CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,000 GVWR	9,000 GVWR
0307 FRONT	0307 FRONT
0813 REAR	HR2000A3 REAR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170394 . . . . .	170395
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	161426 . . . . .	162460
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	170051
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020895 . . . . .	020985
Application Drawing - Rear . . . . .	021263 . . . . .	021272

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	_____ . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	_____ . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Step Plates - Front . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option



1996 FORD	1996 FORD
F350 4 X 4	F350 4 X 4
CREW CAB	CREW CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,200 GVWR	9,200 GVWR
0307 FRONT	0307 FRONT
0813 REAR	HR2000A3 REAR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170394 . . . . .	170395
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	161426 . . . . .	162460
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	170051
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020895 . . . . .	020985
Application Drawing - Rear . . . . .	021263 . . . . .	021272

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	_____ . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	_____ . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Step Plates - Front . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1997 FORD F250 HD 4 X 2 REGULAR CAB STYLESIDE 8,600 GVWR	1997 FORD F250 HD 4 X 2 SUPER CAB STYLESIDE 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	159312 . . . . .	159312
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	159311 . . . . .	159311
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	137353 . . . . .	137353
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020999 . . . . .	020999
Application Drawing - Rear . . . . .	019989 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 FORD F250 HD 4 X 4 REGULAR CAB STYLESIDE 8,600 GVWR	1997 FORD F250 HD 4 X 4 SUPER CAB STYLESIDE 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	170387 . . . . .	170387
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	158791 . . . . .	158791
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170050 . . . . .	170050
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020951 . . . . .	020951
Application Drawing - Rear . . . . .	019989 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1997 FORD	1997 FORD
F350 4 X 4	F350 4 X 2
REGULAR CAB	CREW CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,000 GVWR	9,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170391 . . . . .	159312
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	162445 . . . . .	159311
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	137353
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	021264 . . . . .	020999
Application Drawing - Rear . . . . .	020001 . . . . .	019989

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1997 FORD  
F350 4 X 4  
CREW CAB  
STYLESIDE  
WITH SRW  
9,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170391
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	162445
Steering Lock . . . . .	158687
Wheel Modification . . . . .	170051
Wheel Housing Modification . . . . .	121659
Application Drawing - Front . . . . .	021264
Application Drawing - Rear . . . . .	020001

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Step Plates . . . . .	135685
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option

1997 FORD	1997 FORD
F350 4 X 4	F350 4 X 4
REGULAR CAB	REGULAR CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,000 GVWR	9,000 GVWR
0307 FRONT	0307 FRONT
0813 REAR	HR2000A3 REAR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170394 . . . . .	170395
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	161426 . . . . .	162460
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	170051
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020985 . . . . .	020985
Application Drawing - Rear . . . . .	021263 . . . . .	021272

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	_____ . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	_____ . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Step Plates - Front . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1997 FORD	1997 FORD
F350 4 X 4	F350 4 X 4
CREW CAB	CREW CAB
STYLESIDE	STYLESIDE
WITH SRW	WITH SRW
9,200 GVWR	9,200 GVWR
0307 FRONT	0307 FRONT
0813 REAR	HR2000A3 REAR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	170394 . . . . .	170395
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	161426 . . . . .	162460
Steering Lock . . . . .	158687 . . . . .	158687
Wheel Modification . . . . .	170051 . . . . .	170051
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	020985 . . . . .	020985
Application Drawing - Rear . . . . .	020263 . . . . .	021272

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	_____ . . . . .	_____
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	_____ . . . . .	_____

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Step Plates - Front . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1998 FORD  
EXPEDITION 4 X 4  
7,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	180720
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	180717
Steering Lock . . . . .	181548
Wheel Modification . . . . .	180718
Wheel Housing Modification . . . . .	121659
Application Drawing - Front . . . . .	022637
Application Drawing - Rear . . . . .	022657

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Step Plates . . . . .	135685
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option



1998 FORD F250 LD 4 X 2 REGULAR CAB STYLESIDE 7,700 GVWR	1998 FORD F250 LD 4 X 2 SUPER CAB STYLESIDE 7,500 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	180041 . . . . .	180041
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	180024 . . . . .	180024
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	180025 . . . . .	180025
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	022637 . . . . .	022637
Application Drawing - Rear . . . . .	022638 . . . . .	022638

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1998 FORD F250 LD 4 X 4 REGULAR CAB STYLESIDE 7,700 GVWR	1998 FORD F250 LD 4 X 4 SUPER CAB STYLESIDE 7,700 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	180041 . . . . .	180041
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	180024 . . . . .	180024
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	180025 . . . . .	180025
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	022637 . . . . .	022637
Application Drawing - Rear . . . . .	022638 . . . . .	022638

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 FORD  
EXPEDITION 4 X 4  
7,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	180720
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	180717
Steering Lock . . . . .	181548
Wheel Modification . . . . .	180718
Wheel Housing Modification . . . . .	121659
Application Drawing - Front . . . . .	022637
Application Drawing - Rear . . . . .	022657

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Step Plates . . . . .	135685
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option

1999 FORD F250 LD 4 X 2 REGULAR CAB STYLESIDE 7,700 GVWR	1999 FORD F250 LD 4 X 2 SUPER CAB STYLESIDE 7,500 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	180041 . . . . .	180041
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	180024 . . . . .	180024
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	180025 . . . . .	180025
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	022637 . . . . .	022637
Application Drawing - Rear . . . . .	022638 . . . . .	022638

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 FORD F250 LD 4 X 4 REGULAR CAB STYLESIDE 7,700 GVWR	1999 FORD F250 LD 4 X 4 SUPER CAB STYLESIDE 7,700 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	180041 . . . . .	180041
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	180024 . . . . .	180024
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	180025 . . . . .	180025
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	022637 . . . . .	022637
Application Drawing - Rear . . . . .	022638 . . . . .	022638

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		

1999 FORD F250 HD 4 X 2 REGULAR CAB PICKUP 8,800 GVWR	1999 FORD F250 HD 4 X 2 SUPER CAB PICKUP 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184551
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184433
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023038 . . . . .	023038

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD F250 HD 4 X 2 CREW CAB PICKUP 8,800 GVWR	1999 FORD F250 HD 4 X 4 REGULAR CAB PICKUP 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023038 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD F250 HD 4 X 4 SUPER CAB PICKUP 8,800 GVWR	1999 FORD F250 HD 4 X 4 CREW CAB PICKUP 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184515 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184459 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023047 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option



1999 FORD F350 4 X 2 REGULAR CAB PICKUP WITH SRW 9,900 GVWR	1999 FORD F350 4 X 2 SUPER CAB PICKUP WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184511
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184433
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023038 . . . . .	023038

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD F350 4 X 2 CREW CAB PICKUP WITH SRW 9,900 GVWR	1999 FORD F350 4 X 4 REGULAR CAB PICKUP WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023038 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD	1999 FORD
F350 4 X 4	F350 4 X 4
SUPER CAB	CREW CAB
PICKUP	PICKUP
WITH SRW	WITH SRW
9,900 GVWR	9,900 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	184515 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184459 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023047 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD	1999 FORD
F350 4 X 2	F350 4 X 2
REGULAR	SUPER
CHASSIS CAB	CHASSIS CAB
WITH SRW	WITH SRW
9,900 GVWR	9,900 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	186271 . . . . .	186271
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186268 . . . . .	186268
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD	1999 FORD
F350 4 X 2	F350 4 X 4
CREW	REGULAR
CHASSIS CAB	CHASSIS CAB
WITH SRW	WITH SRW
9,900 GVWR	9,900 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	186271 . . . . .	186269
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186268 . . . . .	186265
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	188439
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Step Plates . . . . .	135685 . . . . .	135685
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

1999 FORD	1999 FORD
F350 4 X 4	F350 4 X 4
SUPER	CREW
CHASSIS CAB	CHASSIS CAB
WITH SRW	WITH SRW
9,900 GVWR	9,900 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	186269 . . . . .	186269
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186265 . . . . .	186265
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD  
EXPEDITION 4 X 4  
7,200 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	180720
Rail Pilot Unit - Front or Rear . . . . .	132381K
Mounting Brackets . . . . .	180717
Steering Lock . . . . .	181548
Wheel Modification . . . . .	180718
Wheel Housing Modification . . . . .	121659
Application Drawing - Front . . . . .	022637
Application Drawing - Rear . . . . .	022657

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K
Rubber Tread . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733
Front Only With Sight Rods . . . . .	131997
Rear Only . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521
* Derail Skids . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077
Aluminum Step Plates - Rear . . . . .	173088
Lift Handle Latch . . . . .	131316
Wheel Weighing Jack . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020

\* Recommended Safety Option

2000 FORD F250 HD 4 X 2 REGULAR CAB PICKUP 8,800 GVWR	2000 FORD F250 HD 4 X 2 SUPER CAB PICKUP 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184511
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184433
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023038 . . . . .	023038

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option



2000 FORD  
F250 HD 4 X 2  
CREW CAB  
PICKUP  
8,800 GVWR

2000 FORD  
F250 HD 4 X 4  
REGULAR CAB  
PICKUP  
8,800 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023038 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F250 HD 4 X 4 SUPER CAB PICKUP 8,800 GVWR	2000 FORD F250 HD 4 X 4 CREW CAB PICKUP 8,800 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184515 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184459 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023047 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F350 4 X 2 REGULAR CAB PICKUP WITH SRW 9,900 GVWR	2000 FORD F350 4 X 2 SUPER CAB PICKUP WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184511
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184433
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023038 . . . . .	023038

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps . . . . .	088521 . . . . .	088521
* Derail Skids . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F350 4 X 2 CREW CAB PICKUP WITH SRW 9,900 GVWR	2000 FORD F350 4 X 4 REGULAR CAB PICKUP WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184511 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184433 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023038 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F350 4 X 4 SUPER CAB PICKUP WITH SRW 9,900 GVWR	2000 FORD F350 4 X 4 CREW CAB PICKUP WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	184515 . . . . .	184515
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	184459 . . . . .	184459
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Wheel Housing Modification . . . . .	121659 . . . . .	121659
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023047 . . . . .	023047

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD	2000 FORD
F350 4 X 2	F350 4 X 2
REGULAR	SUPER
CHASSIS CAB	CHASSIS CAB
WITH SRW	WITH SRW
9,900 GVWR	9,900 GVWR

REQUIRED GROUPS

HY-RAIL® Application . . . . .	186271 . . . . .	186271
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186268 . . . . .	186268
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	184448
Application Drawing - Front . . . . .	023037 . . . . .	023037
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F350 4 X 2 CREW CHASSIS CAB WITH SRW 9,900 GVWR	2000 FORD F350 4 X 4 REGULAR CHASSIS CAB WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	186271 . . . . .	186269
Rail Pilot Unit - Front or Rear . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186268 . . . . .	186265
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	184448 . . . . .	188439
Application Drawing - Front . . . . .	023037 . . . . .	023046
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020

\* Recommended Safety Option

2000 FORD F350 4 X 4 SUPER CHASSIS CAB WITH SRW 9,900 GVWR	2000 FORD F350 4 X 4 CREW CHASSIS CAB WITH SRW 9,900 GVWR
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REQUIRED GROUPS

HY-RAIL® Application . . . . .	186269 . . . . .	186269
Rail Pilot Unit - Front . . . . .	132381K . . . . .	132381K
Mounting Brackets . . . . .	186265 . . . . .	186265
Steering Lock . . . . .	181548 . . . . .	181548
Wheel Modification . . . . .	188439 . . . . .	188439
Application Drawing - Front . . . . .	023046 . . . . .	023046
Application Drawing - Rear . . . . .	023206 . . . . .	023206

GUIDE WHEEL OPTIONS

Steel Tread . . . . .	072894K . . . . .	072894K
Rubber Tread . . . . .	078024K . . . . .	078024K

BUMPER GROUPS

Front and Rear With Sight Rods . . . . .	130733 . . . . .	130733
Front Only With Sight Rods . . . . .	131997 . . . . .	131997
Rear Only . . . . .	132597 . . . . .	132597

ACCESSORY GROUP OPTIONS

* Rail Sweeps - Front . . . . .	088521 . . . . .	088521
* Derail Skids - Front . . . . .	088684 . . . . .	088684
Aluminum Step Plates - Front . . . . .	171077 . . . . .	171077
Aluminum Step Plates - Rear . . . . .	186109 . . . . .	186109
Lift Handle Latch . . . . .	131316 . . . . .	131316
Wheel Weighing Jack . . . . .	073527 . . . . .	073527
* Roof Mount Strobe Light . . . . .	156020 . . . . .	156020
* Recommended Safety Option		





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