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SERVICE BULLETIN

MAINTENANCE OF WAY EQUIPMENT

DATE: 07 – 2026 **BULLETIN NO:** SBUS000143-26 REV B

TITLE: LTA#2 TEMPERATURE SENSOR KIT

RATING:

☐ DIRECTIVE (Action Is Required)	☐ ALERT (Potential Problem)
☐ INFORMATION (Action Is Optional)	☒ PRODUCT IMPROVEMENT (Enhance Product)

PRODUCT SERIES / MODEL: RGE16A1 RAIL GRINDER

SERIAL NO: 257826, 257627, and 257628

SUMMARY:

This package includes the following four kits:

1. 5153823 – Kit, Ambient Air Temperature Sensor
2. 5153824 – Kit Air Compressor Temperature Monitor
3. 5153825 – Kit, Intercooler Fan Running
4. 5153826 – Kit, Dust Collector Temperature Senders

OPERATIONAL IMPACT:

With the additional temperature sensors within the machine, The Jupiter control system will monitor these inputs to provide more diagnostic information on the machine.

ACTION:

Follow instructions on the engineering print 5153823, 5153824, 5153825 and 5153826 to properly and safely install the kits to the grinder machine.

CONTACT: Harsco Rail Service Department
Please contact Kelly Gardner - kgardner@harsco.com

SAFETY INFORMATION

- Follow applicable railroad lockout - tagout procedure to remove machine from energy source. Failure to comply could result in severe bodily injury.
- Refer to energy control procedure to remove all energy sources from machine before performing maintenance or making adjustments or repairs to machine.

Failure to heed these warnings could result in severe bodily injury or death.

Kit Description and Key Set Points:**1. 5153823 – Kit, Ambient Air Temperature Sensor**

This kit includes the addition of four temperature sensors to the machine consist. One temperature sensor mounted near the bumper level and one on the cab roof of both Car 1 and Car 3. These temperature sensors will continuously monitor the ambient temperature of the machine at the four locations. The Jupiter control system will then display these temperatures to the user via the Jupiter Control Screen.

The following temperature setpoints and messages will be displayed:

Warning/Caution level: 48°C

If the ambient temperature sensor reading reaches 48°C, the Jupiter screen will display the following message:

“Ambient temperature is high.”

At this point, the panel with the ambient temperature measurement will automatically be displayed on the Jupiter screen. The operator will not be able to remove this panel by selecting the “ESC” button until the ambient temperature goes below 48°C

If this error message is displayed, the suggested operator action is to finish the current grinding pass and then check the ambient temperature sensor for any signs of abnormalities. If any problems are observed, all grinding operations should be terminated, and the machine should be returned to the depot for further failure analysis.

Critical/Shutdown level: 53°C

If the ambient temperature sensor reading reaches 53°C, the Jupiter screen will display the following message:

“Ambient temperature Critically High: System shutdown recommended”

If this error message is displayed, the suggested operator action is to immediately terminate grinding operations, shut down all grinding motors, and then shut down the APU as soon as possible. The machine should then be returned to the depot for failure analysis.

See Jupiter Controls and Temperature Monitoring IO and Alarms List sections.

See assembly drawing 5153823 for parts and installation.

2. 5153824 – Kit Air Compressor Temperature Monitor

This kit includes adding temperature sensors to monitor the air compressor oil and the temperature of the compressed air on Car 1. These temperatures will then be monitored by the Jupiter Control System to ensure that overheating of the air compressor is detected in time to avoid damage to the air compressor system. The Jupiter Control System will then display these temperatures to the user via the Jupiter Control Screen. The following temperature setpoints and messages will be displayed:

Note: These temperature setpoints are defined using an ambient temperature range of 22°C to 33°C, with an air compressor operating RPM of 900.

Warning/Caution level: 65°C

If the temperature of the air compressor oil reaches 65°C, the Jupiter screen will display the following message:

“Air compressor temperature is high, check the cooling system”

At this point, the panel with the air compressor temperature measurement will automatically be displayed on the Jupiter screen. The operator will not be able to remove this panel by selecting the “ESC” button until the air compressor temperature goes below 65°C

If this error message is displayed, the suggested operator action is to finish the current grinding pass and then check the condition of the air compressor and that the air compressor cooling fan is operating correctly. If any problems are observed, all grinding operations should be terminated, and the machine should be returned to the depot for further failure analysis.

Critical/Shutdown level: 76°C

If the temperature of the air compressor reaches 76°C, the Jupiter screen will display the following message:

“Air compressor temperature Critically High: System shutdown recommended”

If this error message is displayed, the suggested operator action is to immediately terminate grinding operations, shut down all grinding motors, and then shut down the APU as soon as possible. The machine should then be returned to the depot for failure analysis.

See Jupiter Controls and Temperature Monitoring IO and Alarms List sections.

See attached assembly drawing 5153824 for parts and installation.

3. 5153825 – Kit, Intercooler Fan Running

This kit includes the addition of a current sensing relay in the Car 1 Main Junction box, that will monitor the current of the air compressor intercooler fan. Once a current threshold has been achieved, the current sensing relay will give the Jupiter Control System indication that the air compressor oil cooling fan is running. This indication will be displayed on the Jupiter Control screen and recorded in the Jupiter log.

See Jupiter Controls and Temperature Monitoring IO and Alarms List sections.

See attached assembly drawing 5153825 for parts and installation.

4. 5153826 – Kit, Dust Collector Temperature Senders

This kit includes the addition inlet and outlet temperature sensors to the dust collectors on Cars 2 & 3. The Jupiter Control System will then display these temperatures to the user via the Jupiter Control Screen.

See Jupiter Controls and Temperature Monitoring IO and Alarms List sections.

See attached assembly drawing 5153826 for parts and installation.

Jupiter Controls

Access the miscellaneous menu from the main screen.



Figure 1: Main Screen Panel

There are 2 new buttons on this menu, one for air compressor temperature monitoring and one for dust collectors and external ambient temperature monitoring.

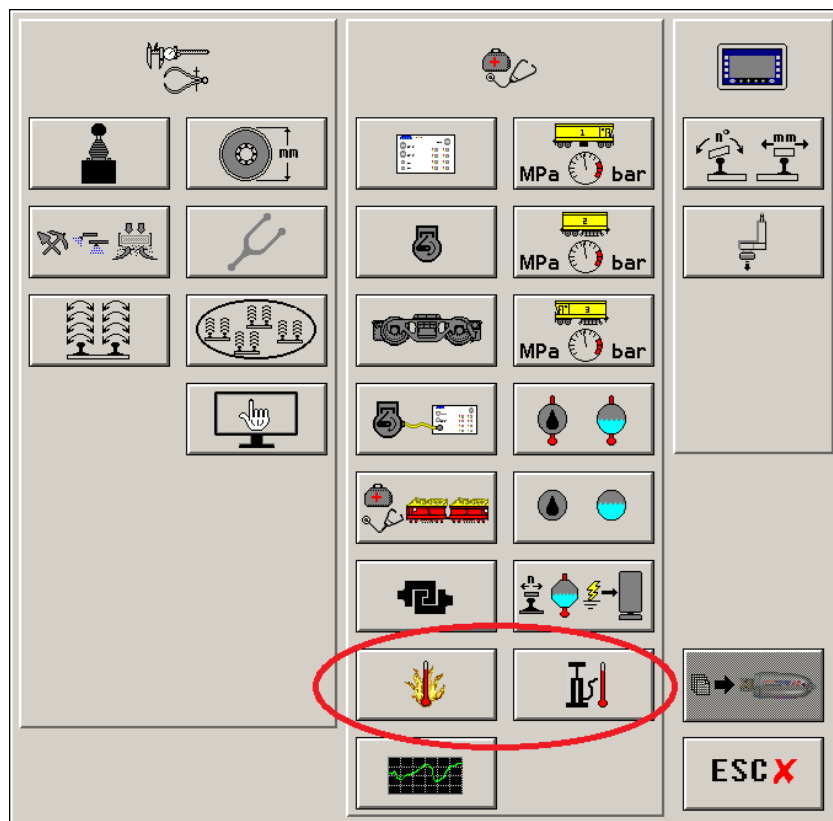


Figure 2: Miscellaneous Menu panel

These new temperature readings each have their own histogram on their respective temperature monitoring panels. The histograms plot a trace of the last hour of temperature data. On the left is the range and scale of the monitored value. The regions marked in red on the vertical axis to indicate 'out of range'. If a graph trace moves into one of these regions, there is a problem and the cause must be investigated. The icon associated with the problem parameter will flash red while the parameter remains in the red "out of range" portion of the graph. This will also automatically "pop" out the respective panel on the Jupiter system that displays this value and an alarm will be issued, notifying the operator of the issue.

On the right is an arrow that slides up/down, showing the current value being read. On the bottom is a number information box that also shows the current reading's numerical value

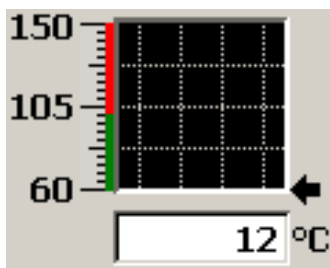


Figure 3: Histograms

Air Compressor Temperature Monitoring Panel

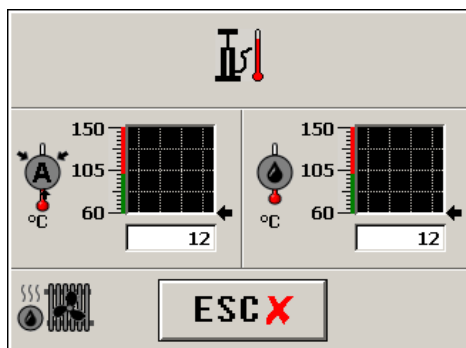
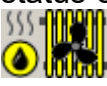


Figure 4: Air Compressor Temperature Monitoring Panel

This dialog box displays the temperatures measured in the air compressor system (left to right):

- 1) Air compressor system air temperature 
- 2) Air compressor system oil temperature 

In the bottom left side of this panel is an icon that indicates the running status of the air compressor oil intercooler fan.  The on (yellow highlighted ) status indicates that the fan motor has been pulling a specific amount of amperes for a specific amount of time.

Temperature Monitoring Panel

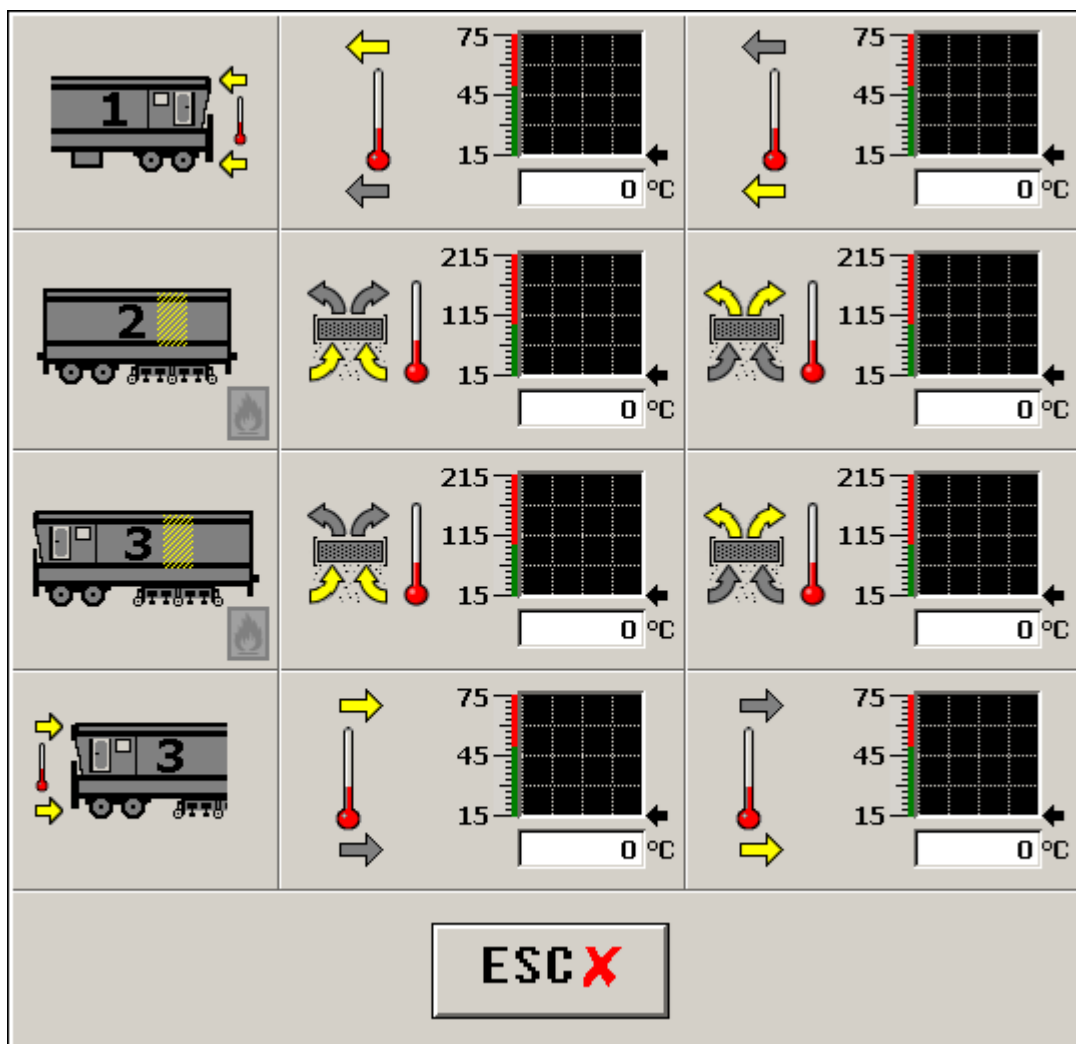


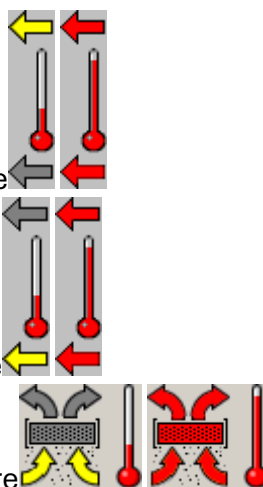
Figure 5: Temperature Monitoring Panel

This dialog box displays the temperature measured at the following locations on each car in the machine consist: (left to right, top to bottom):

1) Car 1 upper outside ambient temperature

2) Car 1 lower outside ambient temperature

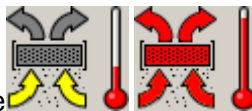
3) Car 2 dust collector air intake temperature



4) Car 2 dust collector air exhaust temperature



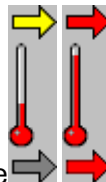
5) Car 3 dust collector air intake temperature



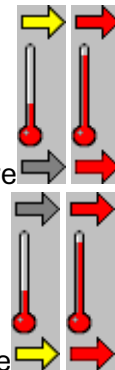
6) Car 3 dust collector air exhaust temperature



7) Car 3 upper outside ambient temperature



8) Car 3 lower outside ambient temperature



In the Car 2 and Car 3 dust collector boxes on the far-left middle are icons that indicates when each car's dust collector heat switch has been tripped.  

Temperature Monitoring IO and Alarms List

SID	Text	Alarm @ °C	Notes
IO_C1_INTRCLR_FAN_ON_NO_SW	Intercooler Fan Running Normally Open Switch		
IO_C1_INTRCLR_FAN_ON_NC_SW	Intercooler Fan Running Normally Closed Switch		
IO_C1_AIR_COMP_OIL_TEMP	Air Compressor Oil Temperature		
IO_C1_AIR_COMP_AIR_TEMP	Air Compressor Air Temperature		
IO_C1_LWR_AMBIENT_TEMP	Lower Ambient Temperature Car 1		
IO_C1_UPR_AMBIENT_TEMP	Upper Ambient Temperature Car 1		
IO_C3_LWR_AMBIENT_TEMP	Lower Ambient Temperature Car 3		
IO_C3_UPR_AMBIENT_TEMP	Upper Ambient Temperature Car 3		
IO_C2_DC_EXHAUST_TEMP	Dust Collector Exhaust Temperature Car 2		
IO_C2_DC_INLET_TEMP	Dust Collector Inlet Temperature Car 2		
IO_C3_DC_EXHAUST_TEMP	Dust Collector Exhaust Temperature Car 3		
IO_C3_DC_INLET_TEMP	Dust Collector Inlet Temperature Car 3		
ALM_COMPRESSORAIRHOT	Air compressor air temperature high: Check cooling system	65.00	Warning/Caution: ~149°F (65°C)
ALM_COMPRESSOROILHOT	Air compressor oil temperature high: Check cooling system	65.00	Warning/Caution: ~149°F (65°C)
ALM_COMPRESSORAIRFAIL	Air compressor air temperature Critically High: System shutdown recommended	76.00	Critical/Shutdown: ~168.8°F (76°C)
ALM_COMPRESSOROILFAIL	Air compressor oil temperature Critically High: System shutdown recommended	76.00	Critical/Shutdown: ~168.8°F (76°C)
ALM_INTRCLR_FAN_FAIL	Air compressor intercooler fan relay #K2530 abnormal status	Digital Logic	short/open circuit detection via relay's dual NO/NC contacts.
ALM_AMBT_TEMPHIGH	High ambient temperature on Car %d	48.00	
ALM_AMBT_TEMP CRIT	Critical ambient temperature on Car %d	53.00	
ALM_DUSTINTEMPHIGH	Dust collector intake temperature reading high	100.00	Same value as LTA #4 machine
ALM_DUSTEXHAUSTTEMPHIGH	Dust collector exhaust temperature reading high	100.00	Same value as LTA #4 machine
ALM_DUSTCOLLECTORFIRE	Dust collector heat switch tripped on Car %d	Digital Logic	Existing DC heat switches

Service Group Parts List

See attached engineering prints for service group contents.

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Fax: 61 7 3205 7369

NEW CABLES - CAR 1 LOWER TEMPERATURE SENSOR

SEE SHEET 3						
CAR 1 LOWER TEMP ENCL			J11700 3401329		CABLE ASSEMBLY, M12 CAR 1 FRAME	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:11:C7	EXISTS	J11700A:MAL	EXISTS

SEE SHEET 3						
CAR 1 LOWER TEMP A CAR 1 FRAME			J11700A 3401328		CABLE ASSEMBLY, M12 CAR 1, HOSE REEL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	J11700:FEM	EXISTS	RJ11750:M12	EXISTS

NEW CABLES - CAR 1 UPPER TEMPERATURE SENSOR

SEE SHEET 3						
CAR 1 UPPER TEMP ENCL			J11800 3401329		CABLE ASSEMBLY, M12 CAR 1 FRAME	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:11:C8	EXISTS	J11800A:MAL	EXISTS

SEE SHEETS 3 & 4						
CAR 1 UPPER TEMP A CAR 1 FRAME			J11800A 3401329		CABLE ASSEMBLY, M12 CAR 1 CAB SOFFIT	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	J11800:FEM	EXISTS	PJ11850:MAL	EXISTS

SEE SHEETS 3 & 4						
CAR 1 UPPER TEMP B CAR 1 CAB SOFFIT			J11800B 2013713		CABLE ASSEMBLY, M12 CAR 1, ROOF	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	PJ11850:FEM	EXISTS	RJ11850:M12	EXISTS

SEE SHEET 4						
CAR 1 UP TEMP BLKHD CAR 1 FRAME			PJ11850 199053		CONNECTOR CAR 1 FRAME	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	MAL	-	J11800B:MAL	EXISTS	J11800A:FEM	EXISTS

NEW CABLE - CAR 3 LOWER TEMPERATURE SENSOR

SEE SHEET 5						
CAR 3 LOWER TEMP WATER TANK			J09A100 3401329		CABLE ASSEMBLY, M12 CAR 3, HOSE REEL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:09A:C1	EXISTS	RJ09A150:M12	EXISTS

NEW CABLES - CAR 3 UPPER TEMPERATURE SENSOR

SEE SHEET 5						
CAR 3 UPPER TEMP WATER TANK			J09A200 3401329		CABLE ASSEMBLY, M12 CAR 3, FRONT	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:09A:C2	EXISTS	J09A200A:MAL	EXISTS

SEE SHEETS 5 & 6						
CAR 3 UPPER TEMP A CAR 3, FRONT			J09A200A 3401327		CABLE ASSEMBLY, M12 CAR 3, CAB SOFFIT	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	J09A200:FEM	EXISTS	PJ09A250:MAL	EXISTS

SEE SHEETS 5 & 6						
CAR 3 UPPER TEMP B CAR 3, CAB SOFFIT			J09A200B 2013713		CABLE ASSEMBLY, M12 CAR 3, ROOF	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	PJ09A250:FEM	EXISTS	RJ09A250:M12	EXISTS

SEE SHEET 6						
CAR 3 UP TEMP BLKHD CAR 3, FRONT			PJ09A250 199053		CONNECTOR CAR 3, FRONT	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	MAL	-	J09A200B:MAL	EXISTS	J09A200A:FEM	EXISTS

SEE NOTES 1-4 & 6-7

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CHANGE #		REVISION	DR	DATE
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EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

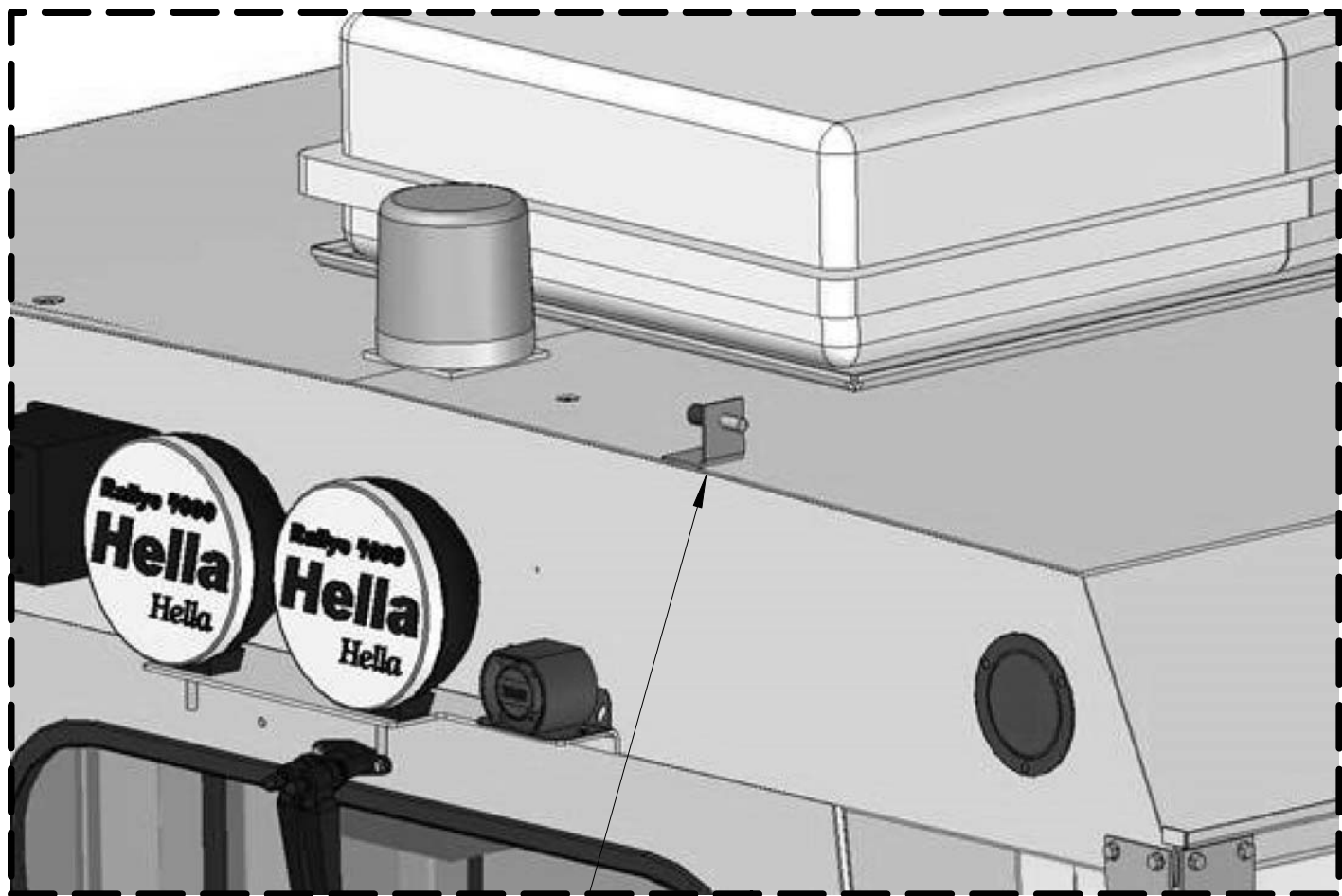
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MACHINE TYPE-MODEL: RGE16A1-27	
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18	

DRAWN BY: ZSJ	E3 DRAWING
REL. DATE: 03-20-2026	
SIZE: D	
SCALE:	

HARSCO

RAIL

5153823

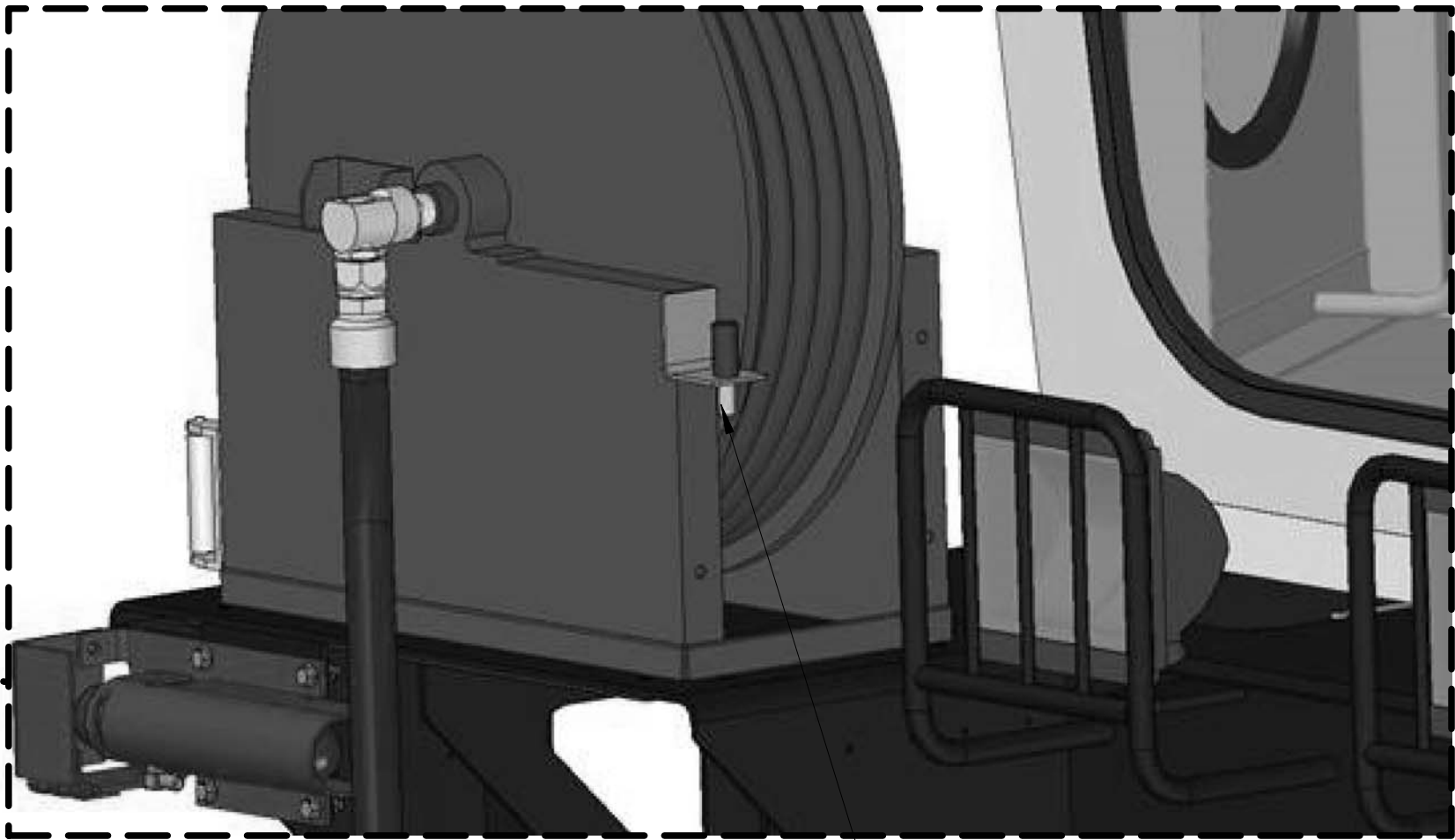


CAR 1 UPPER TEMP RJ11850
3401329 J11800A
2013713 J11800B
SEE SHEET 4 FOR SENSOR
MOUNTING DETAILS

SEE NOTES 6 & 7

THROUGH THE MAIN JUNCTION BOX
SEE SHEET 4

CAN:11 CAN:11 AI
J11700 3401329
J11800 3401329



SEE SHEET 4
RJ11750 CAR 1 LOWER TEMP
J11700A 3401328
SEE SHEET 4 FOR SENSOR
MOUNTING DETAILS

CAR 1 CABLE ROUTING OVERVIEW
LEFT SIDE OF MACHINE

(B)

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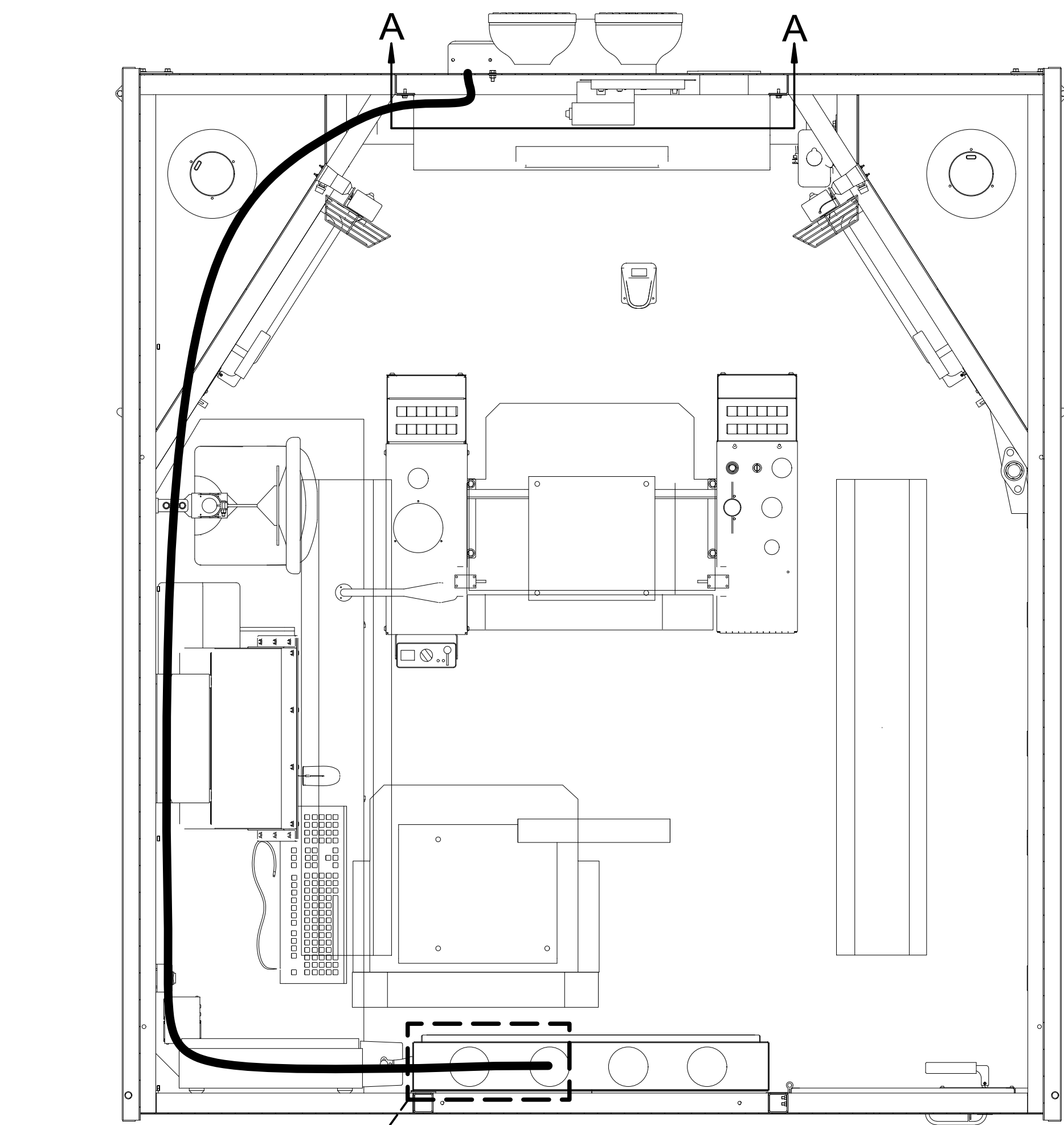
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EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

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MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

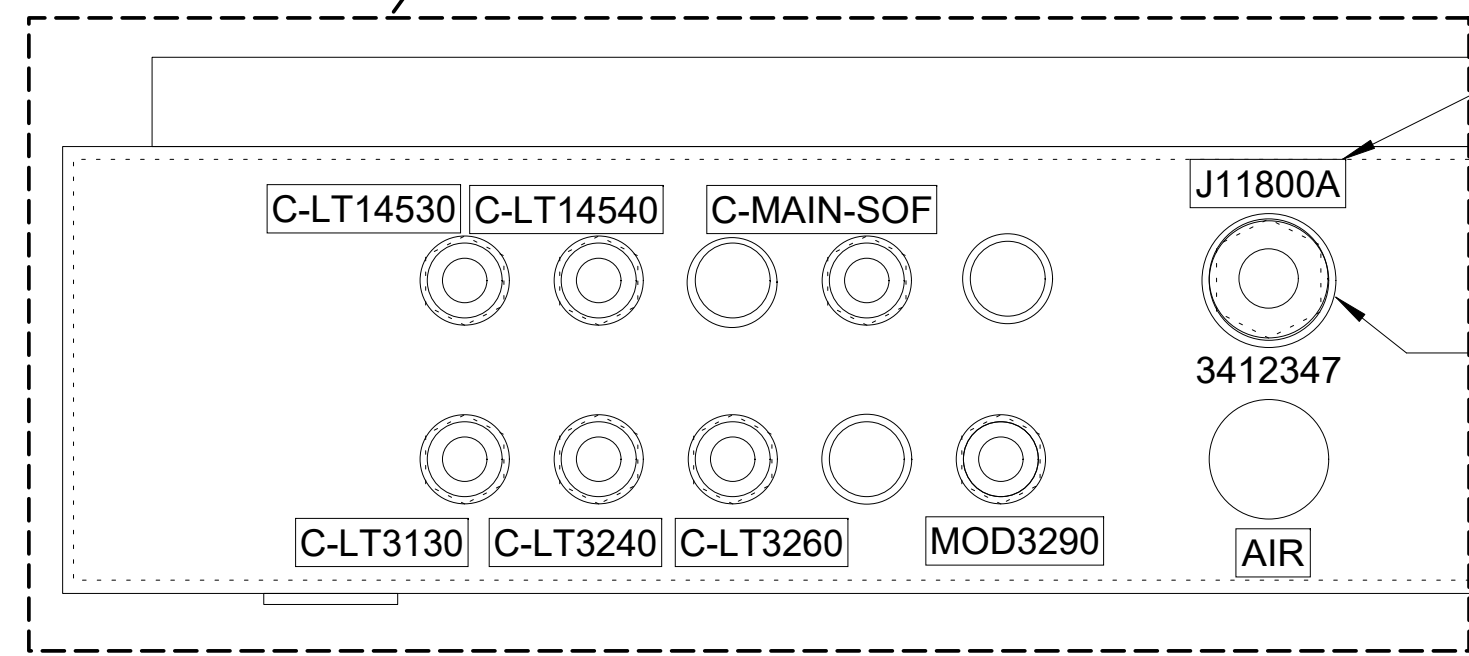
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NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 6	SIZE: D
	SCALE:

HARSCO RAIL
E3 DRAWING
5153823

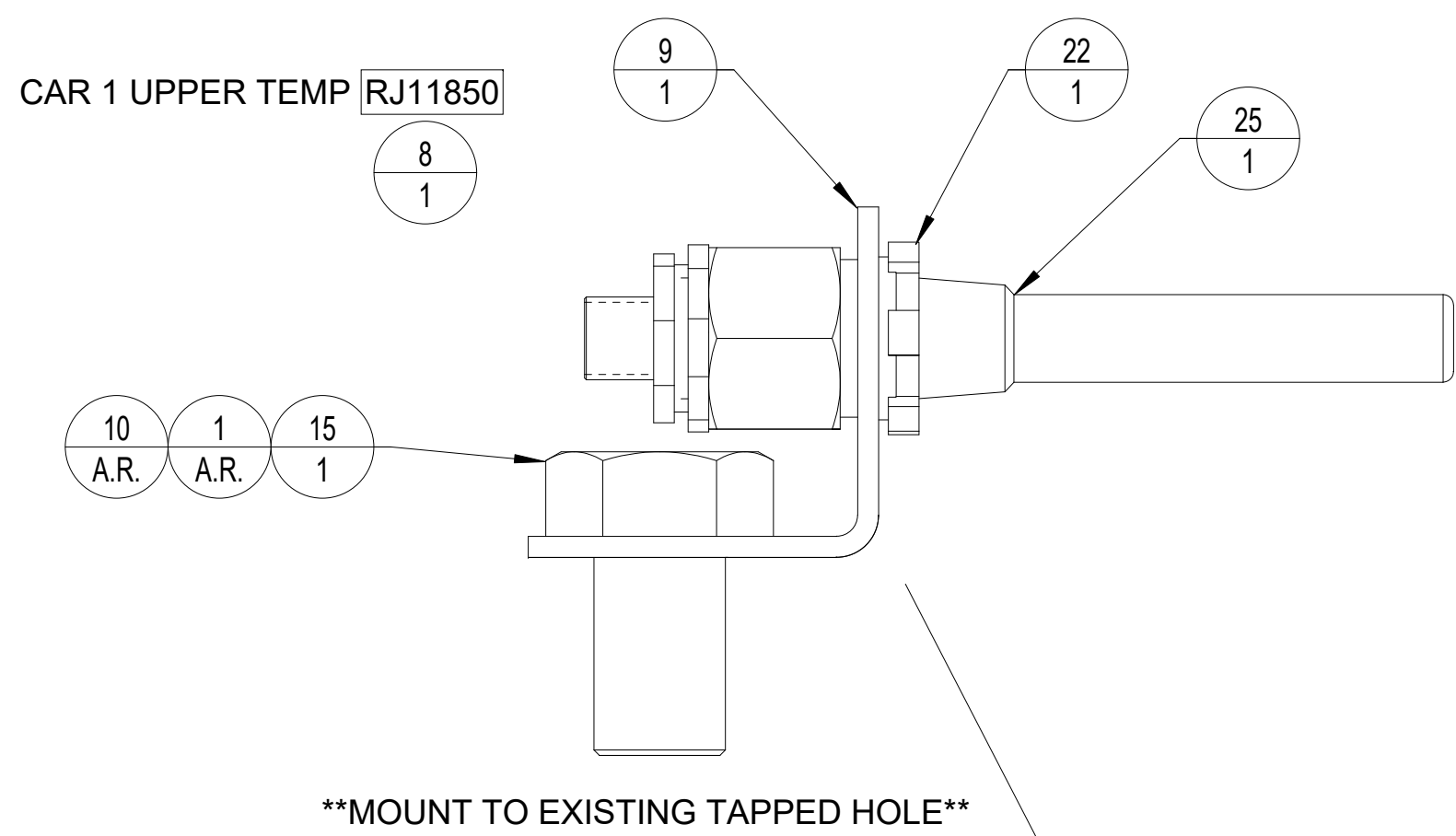
CAR 1 TEMPERATURE SENSOR WIRING



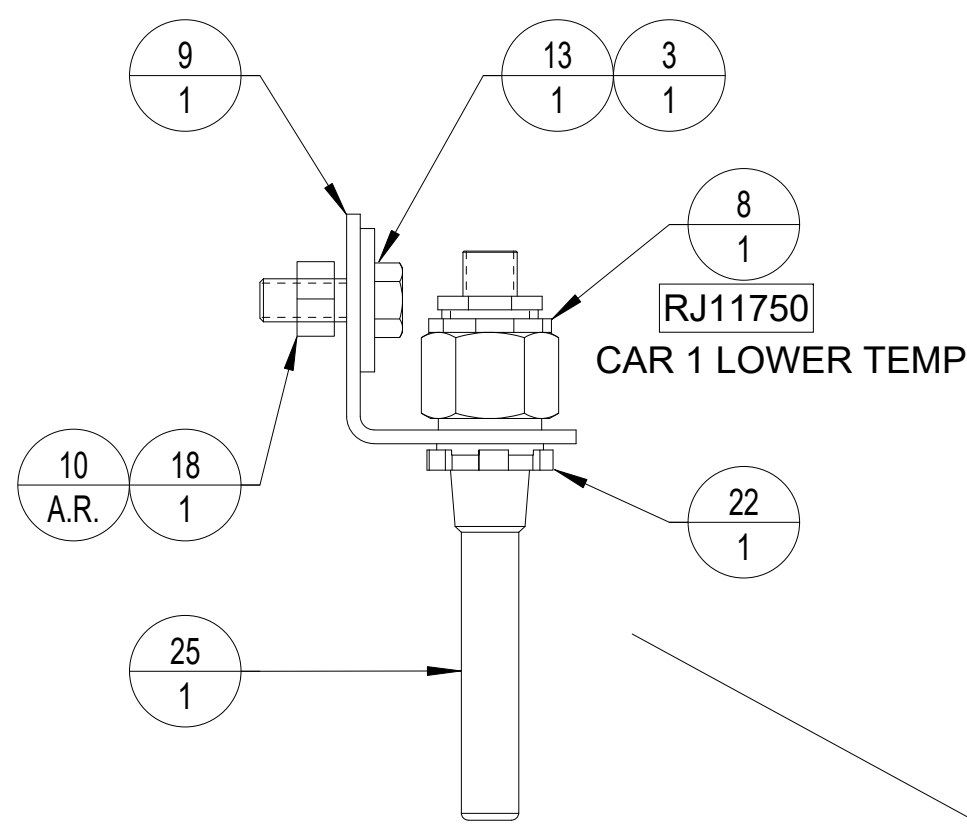
TOP VIEW OF CAB



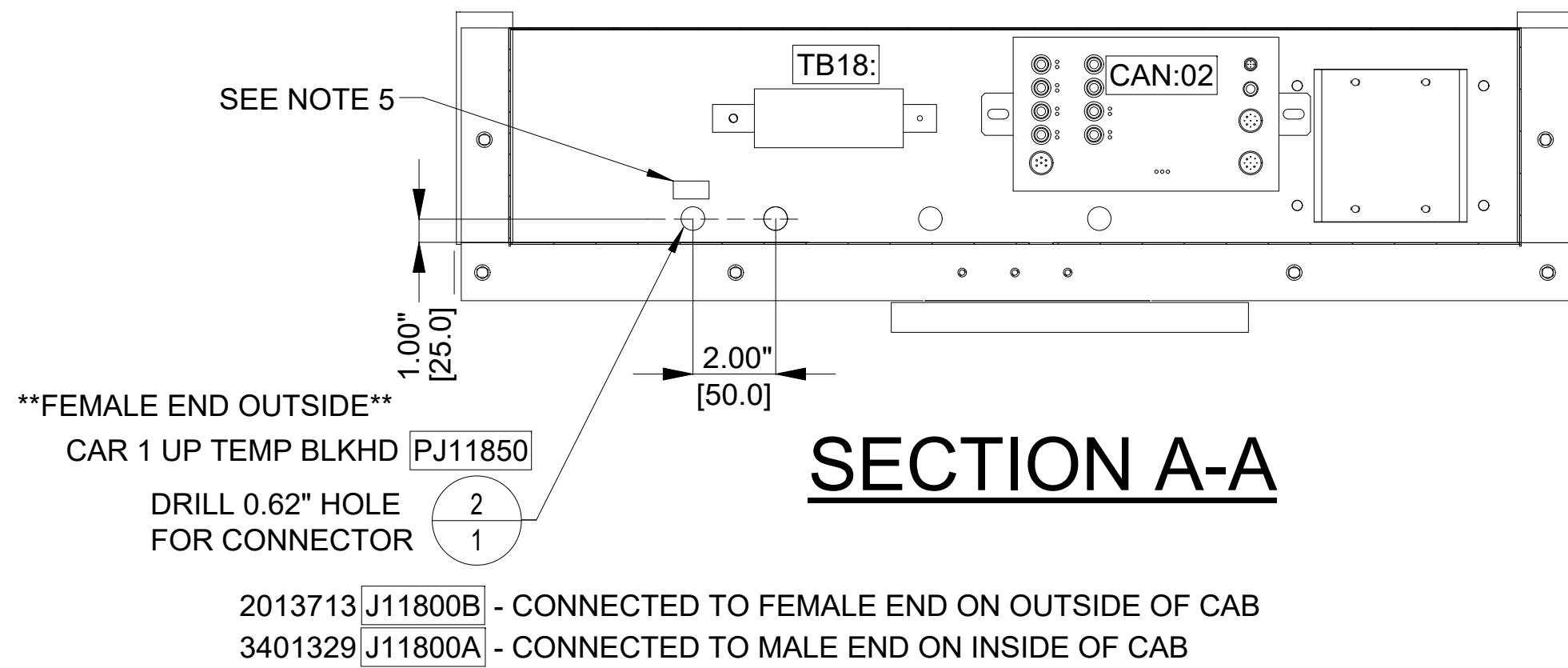
TOP VIEW OF MAIN JUNCTION BOX



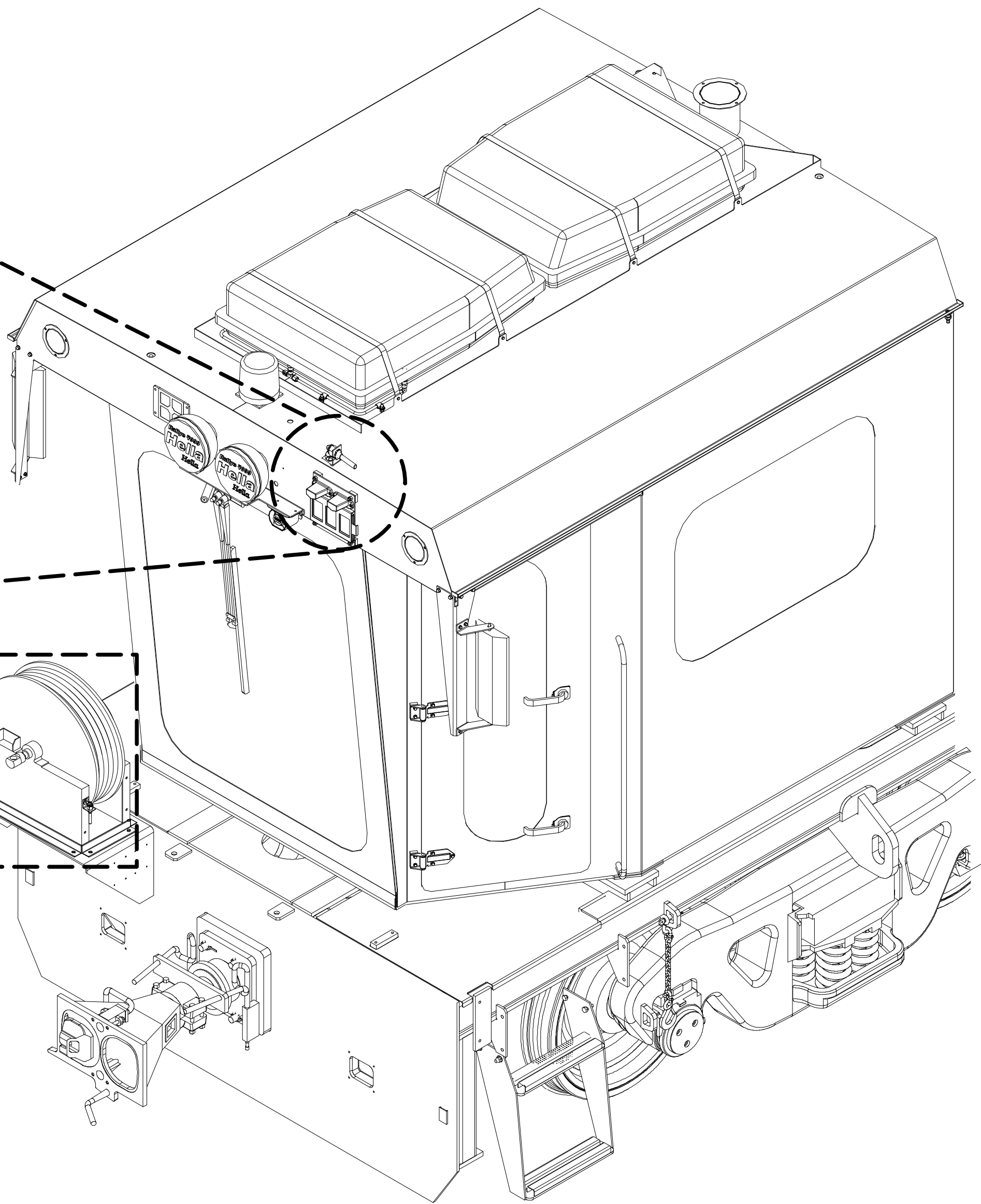
MOUNT TO EXISTING TAPPED HOLE



MOUNT SENSOR TO EXISTING HOLE AS SHOWN, OR TO THE EXISTING HOLE BELOW. IF THERE ARE CLEARANCE ISSUES, TAP A 0.38" HOLE ON HOSE REEL.



SECTION A-A



CAR 1 SENSOR LOCATIONS

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EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26
EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, AMBIENT AIR TEMP SENSOR CAR 1 TEMP SENSOR WIRING
MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

SHEET NUMBER 4	DRAWN BY: ZSJ
NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 6	SIZE: D
	SCALE:

HARSCO RAIL
E3 DRAWING
5153823

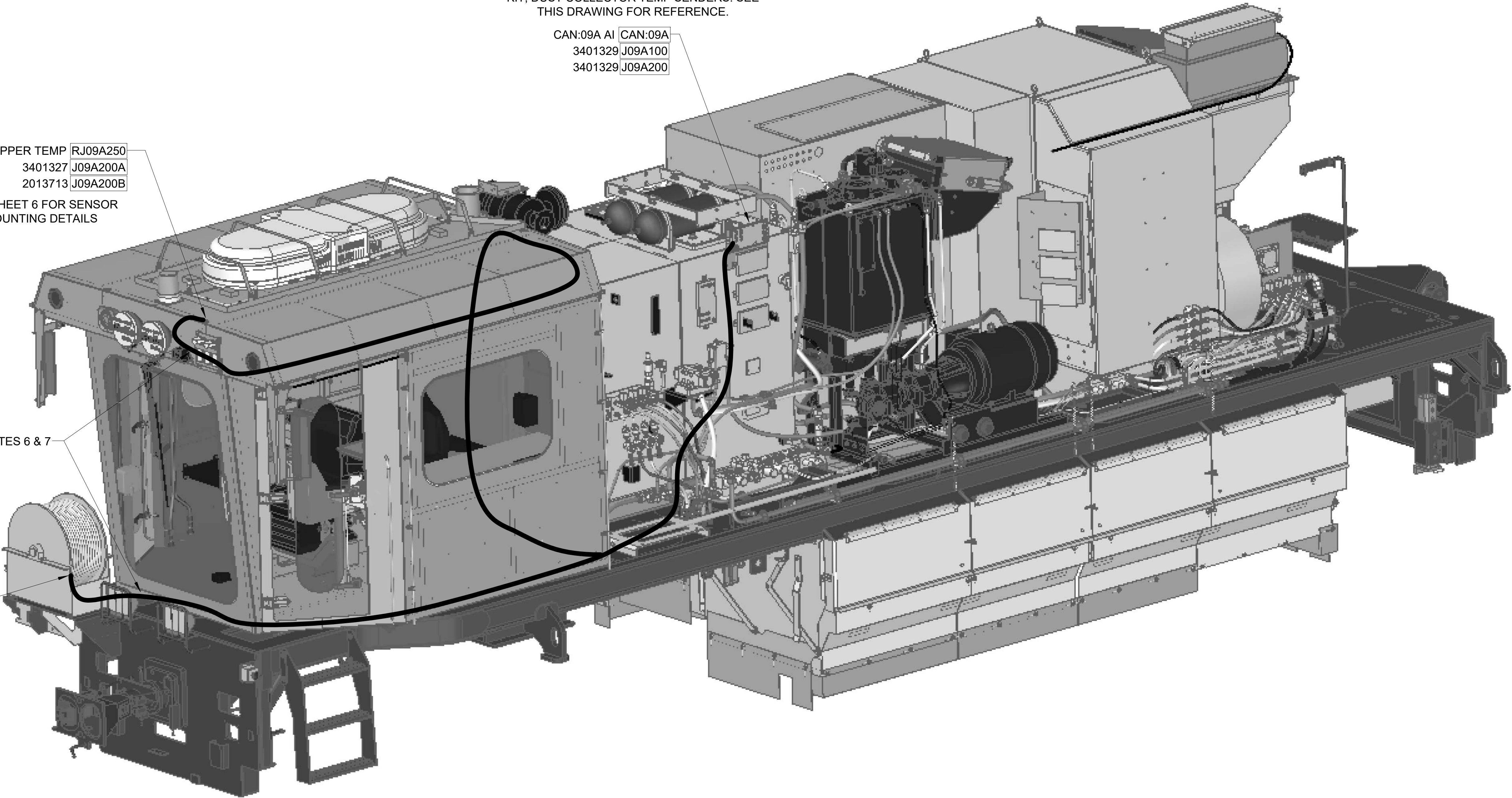
NOTE: CAN:09A IS INCLUDED WITH 5153826
KIT, DUST COLLECTOR TEMP SENDERS. SEE
THIS DRAWING FOR REFERENCE.

CAN:09A AI CAN:09A
3401329 J09A100
3401329 J09A200

CAR 3 UPPER TEMP RJ09A250
3401327 J09A200A
2013713 J09A200B
SEE SHEET 6 FOR SENSOR
MOUNTING DETAILS

SEE NOTES 6 & 7

CAR 3 LOWER TEMP RJ09A150
3401329 J09A100
SEE SHEET 6 FOR SENSOR
MOUNTING DETAILS



CAR 3 CABLE ROUTING OVERVIEW
RIGHT SIDE

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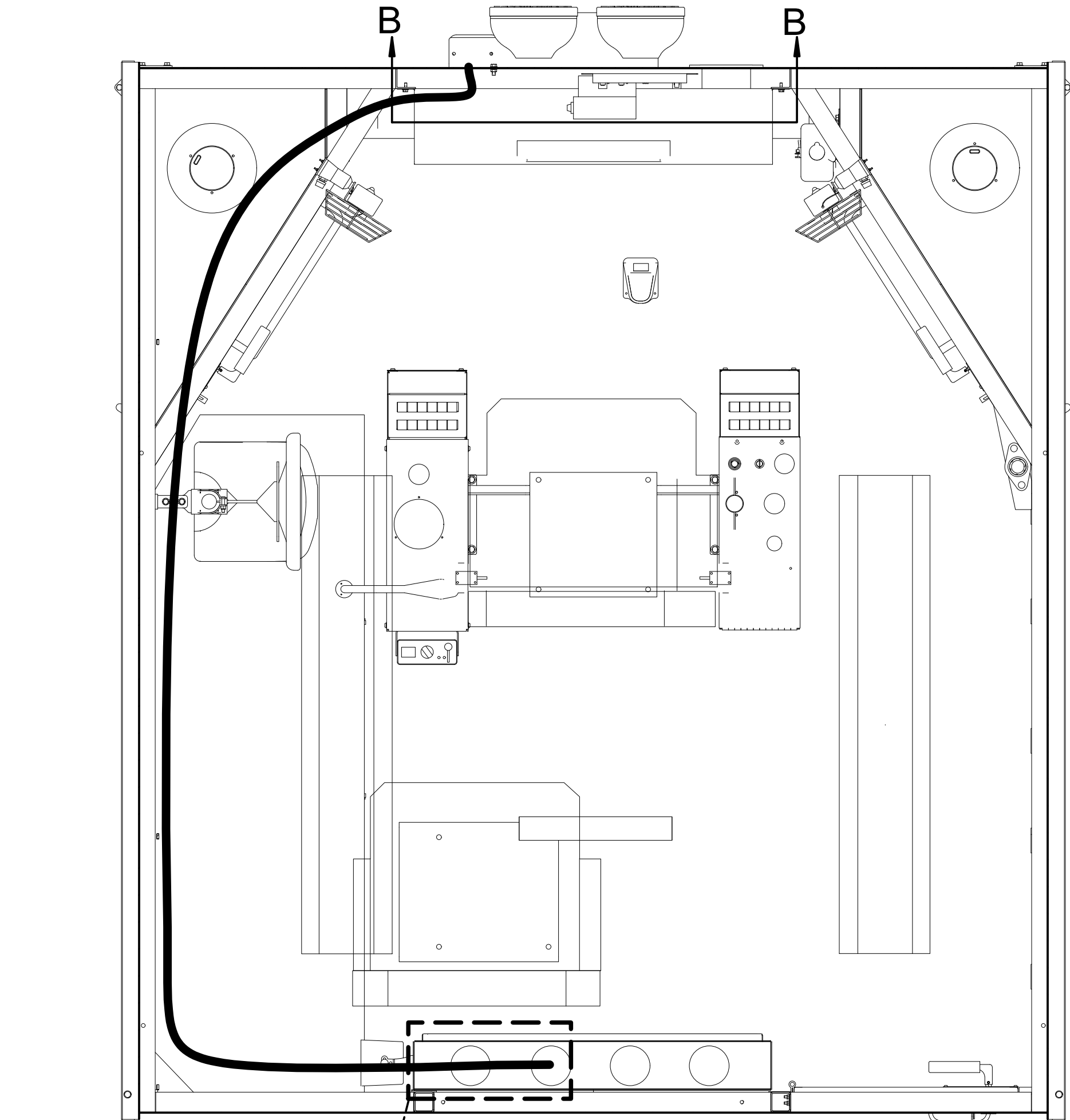
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MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

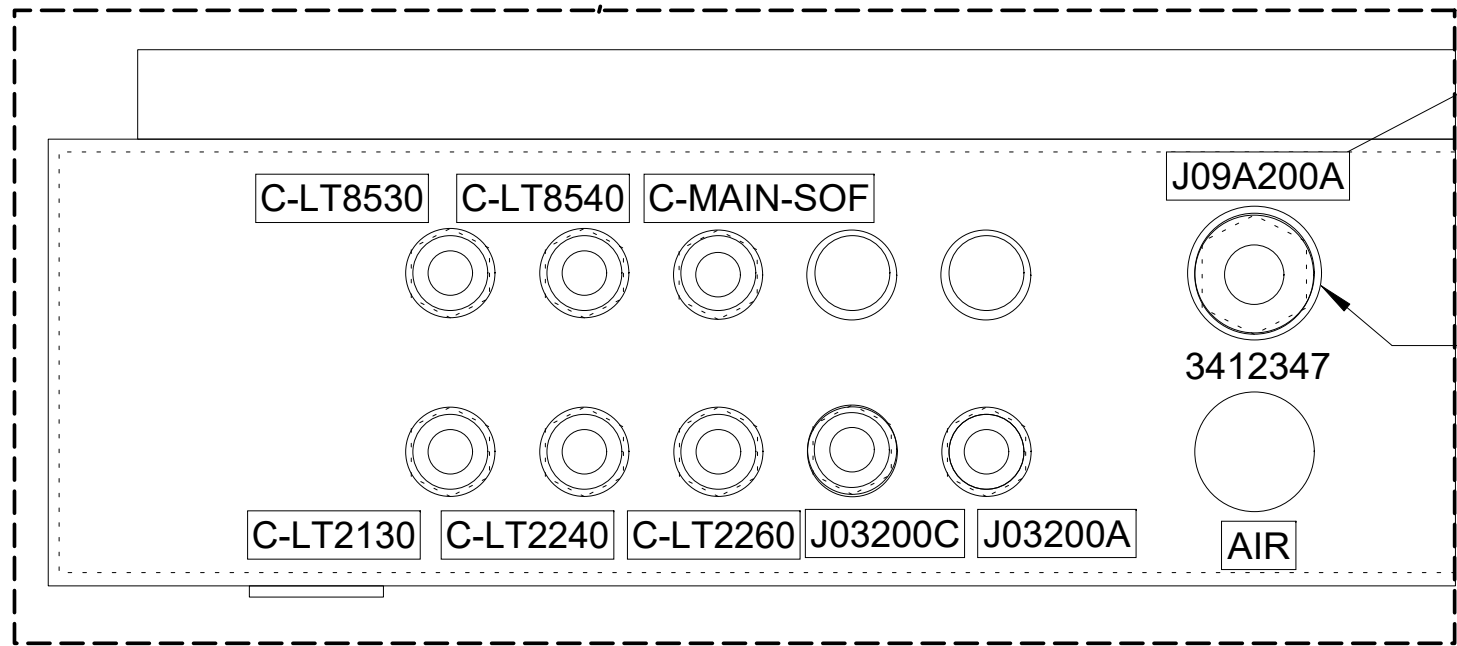
SHEET NUMBER 5	DRAWN BY: ZSJ
NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 6	SIZE: D
	SCALE:

HARSCO RAIL
E3 DRAWING
5153823

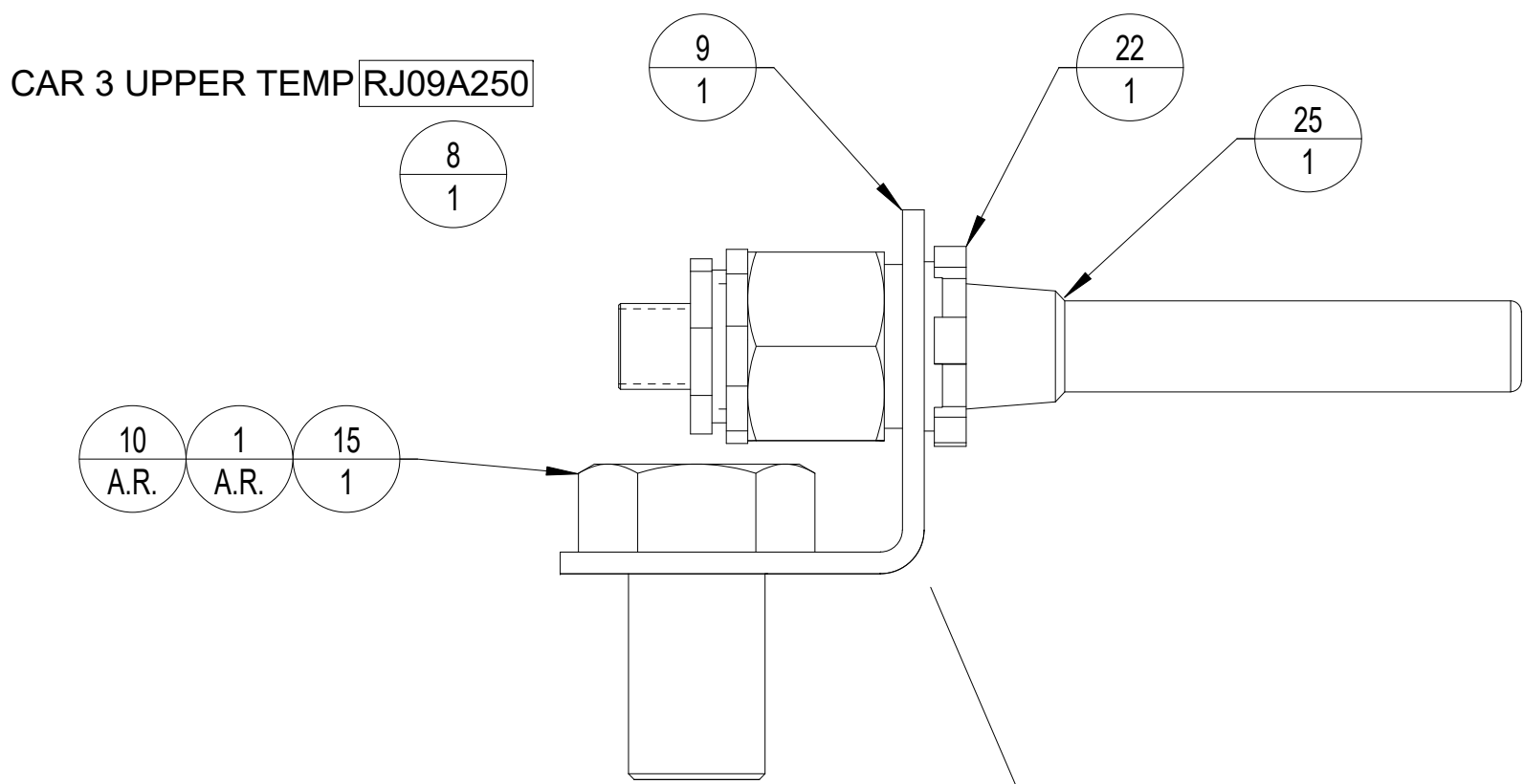
CAR 3 TEMPERATURE SENSOR WIRING



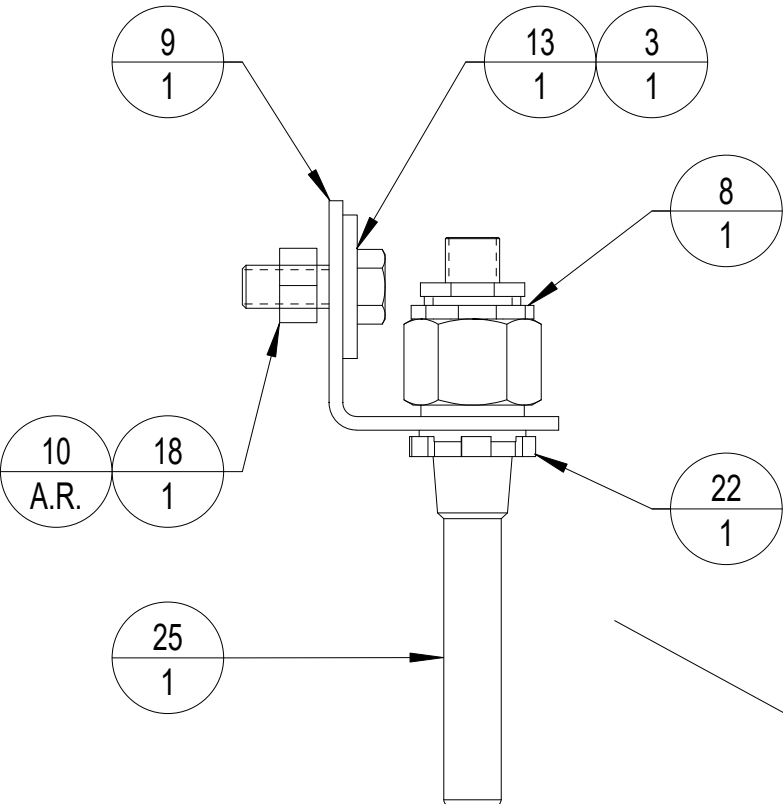
TOP VIEW OF CAB



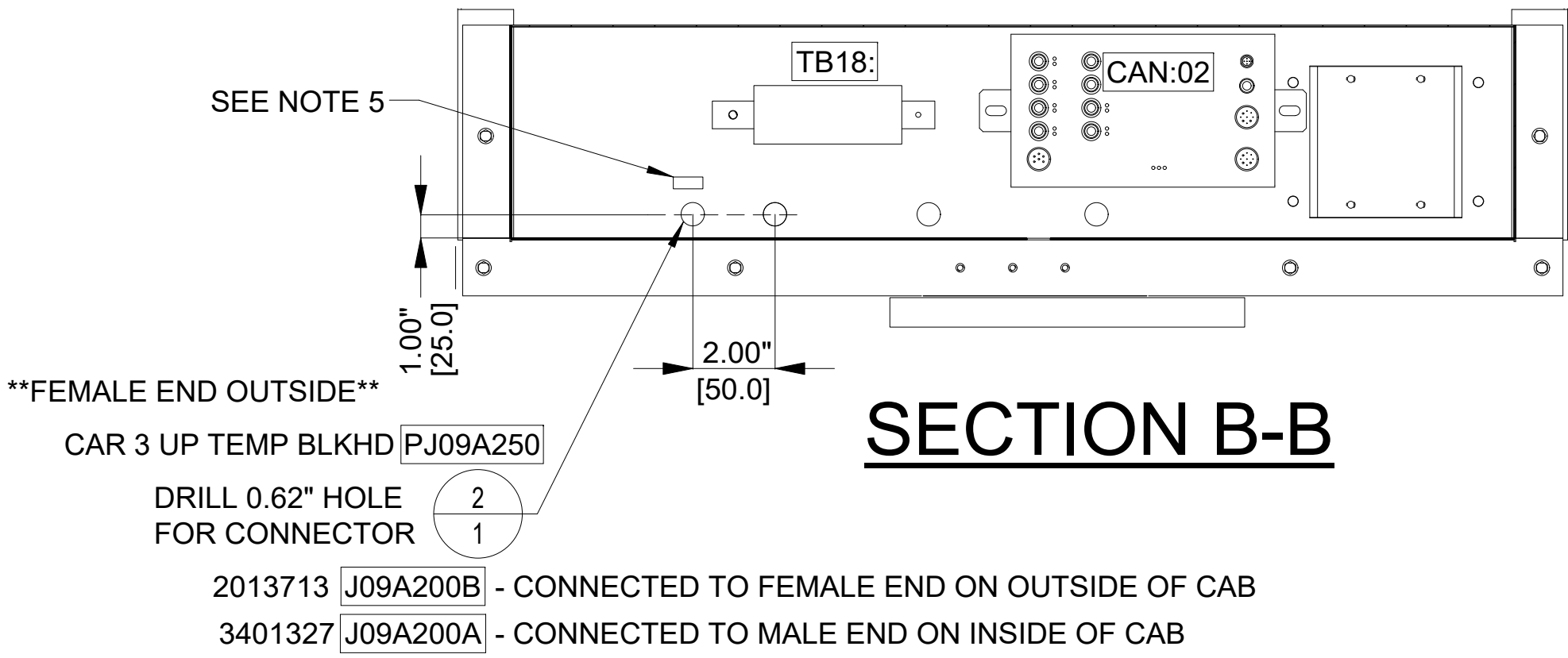
TOP VIEW OF MAIN JUNCTION BOX



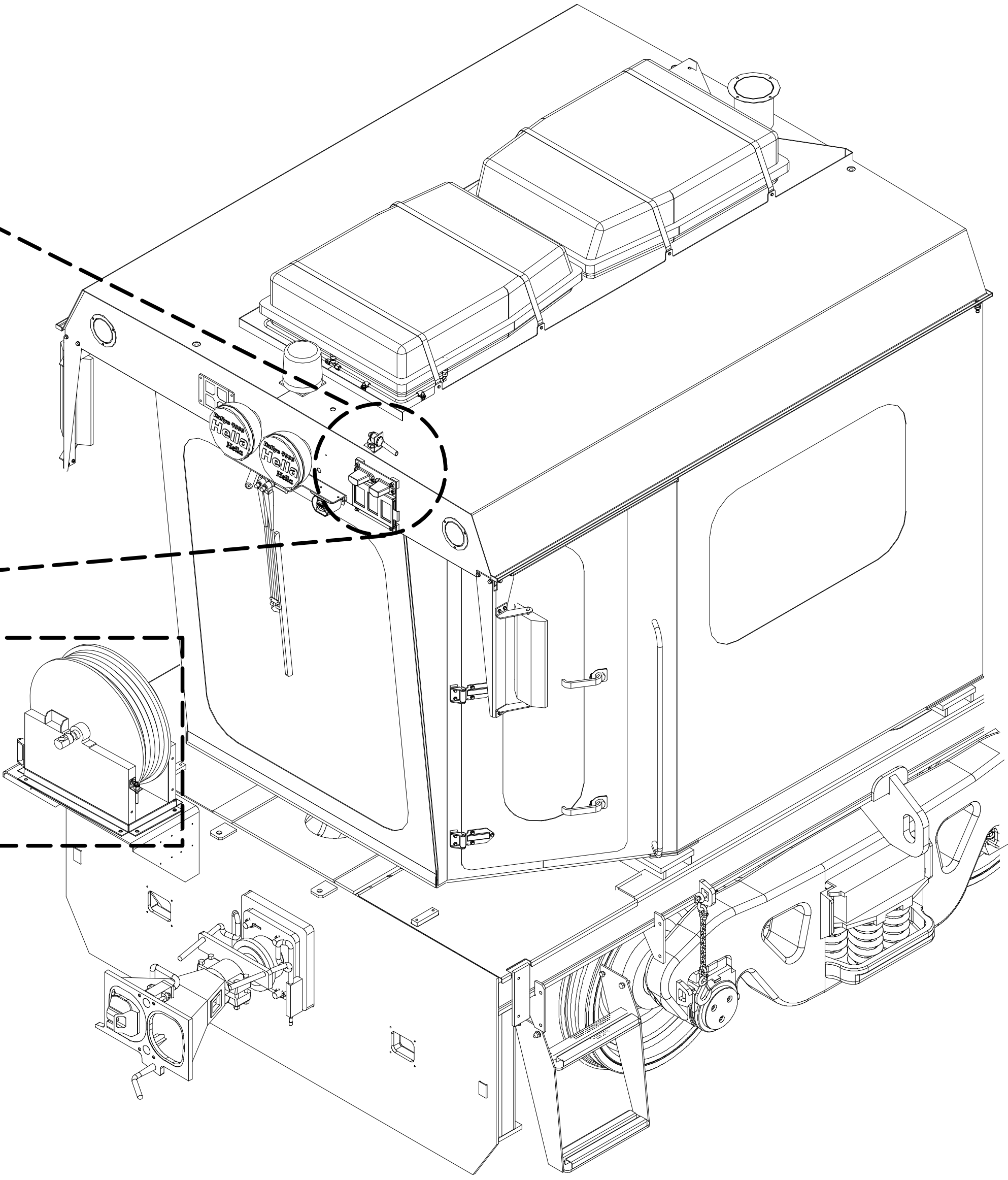
MOUNT TO EXISTING TAPPED HOLE



MOUNT SENSOR TO EXISTING HOLE AS SHOWN, OR TO THE EXISTING HOLE BELOW. IF THERE ARE CLEARANCE ISSUES, TAP A 0.38" HOLE ON HOSE REEL.



SECTION B-B



CAR 3 SENSOR LOCATIONS

(B)

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CHANGE #		REVISION	DR	DATE
EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26
EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, AMBIENT AIR TEMP SENSOR CAR 3 TEMP SENSOR WIRING
MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

SHEET NUMBER 6	DRAWN BY: ZSJ
NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 6	SIZE: D
	SCALE:

HARSCO RAIL
E3 DRAWING
5153823

BILL OF MATERIAL				
ITEM	PART #	QTY	PART DESCRIPTION	
B 1	3401329	1	CABLE ASSEMBLY, M12	: 10M M12-M/F 18AWG/5 COND SHLD LSZH
2	D8197Y18	8	TAGS, CABLE	: PLASTIC CABLE TAG SLEEVE
3	F008461	10	CLAMP, P	: 0.31 ID, MOUNT HOLE 0.28 DIA, NON-INSULATED
4	F014765	10	SCREW	: 1/4-20 X 1/2 SELF TAP SCREW
5	F016578	15	TY-RAP	: MEDIUM 7.31"
6	F018229	10	TY-RAP	: SMALL 3.5"
7	H5133WAP	2	SENSOR, TEMPERATURE	: TEMPERATURE SENDER W / M12
B 8	3401327	1	CABLE ASSEMBLY, M12	: 5M M12-M/F 18AWG/5 COND SHLD LSZH
B 9	F012024	2	PIPE BUSHING	: 3/8 FNPT - 3/4 NPT

- NOTES:
1. ALL WIRES & CONDUCTORS SHALL BE LABELED (WIRE MARKERS) USING A SLEEVE TYPE NUMBERING SYSTEM.
WIRES ARE TO BE LABELED ON BOTH ENDS EXCEPT WHERE:
- OVERALL WIRE LENGTH IS LESS THAN 4"
- WIRES ARE TERMINATED IN A CONNECTOR (VEAM, CANNON, DIN, ETC.)
2. USE SUPPLIED TY-RAPS AS REQUIRED TO SECURE CABLES AND WIRES NEATLY.
DO NOT USE TY-RAPS IN WIRE TRAYS OR CONDUIT.
3. ROUTE WIRES PER DIAGRAM AND CABLE CHARTS. MAKE ALL CORNERS AS SQUARE AS POSSIBLE.
4. ALL CABLES SHALL BE LABELED WITH CABLE MARKERS PLACED IN D8197Y18-SLEEVES PER CABLE CHARTS.
SECURE SLEEVE TO BOTH ENDS OF THE CABLE USING F018229-TY-RAP 2" FROM BOX AND 6" FROM THE FREE END.
ONCE SECURED CENTER MARKER AND TRIM EXCESS SLEEVE ENDS.
5. USE SUPPLIED P-CLAMPS AND SELF TAPPING HARDWARE AS REQUIRED TO SECURE CABLES NEATLY.
6. A FILE CONTAINING ALL WIRE, CABLE, & COMPONENT LABELS FOR THIS ASSEMBLY HAS BEEN LOADED AS A DATASET IN TEAMCENTER.

REFERENCE DRAWINGS	
INCLUDE A COPY OF THE FOLLOWING DRAWINGS WITH THIS KIT	
DRAWING #	DESCRIPTION
3411290	ELECTRICAL SCHEMATIC, CAR 1 & 2
5153824	KIT, AIR COMP TEMP MONITOR

NOTE: PLACE PRINTED DEVICE LABELS, CABLE TAGS, AND WIRE NUMBERS IN PLASTIC BAG AND INCLUDE WITH THIS KIT. SEE NOTE 6.

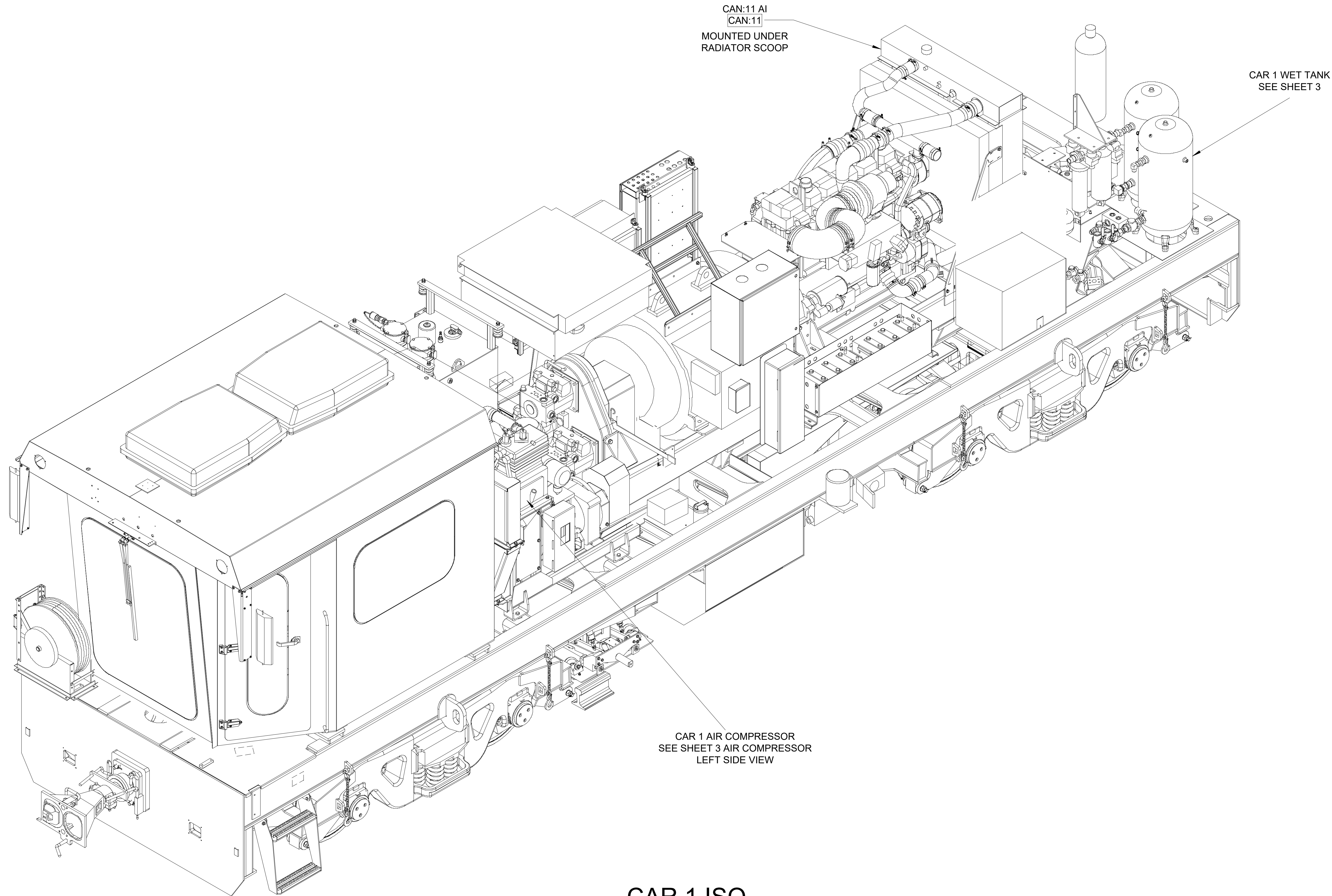
NEW CABLES

AIR COMP OIL TEMP ENCL			J11500 3401327	SEE SHEET 3 CABLE ASSEMBLY, M12 AIR COMP		
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:11:C5	EXISTS	SJ11567:M12	EXISTS

AIR COMP AIR TEMP ENCL			J11600 3401329	SEE SHEET 3 CABLE ASSEMBLY, M12 WET TANK		
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:11:C6	EXISTS	SJ11667:M12	EXISTS

SEE NOTES 1-5

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	EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26		NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026	
	EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26			SIZE: D	
						MACHINE TYPE-MODEL: RGE16A1-27	TOTAL NUMBER OF SHEETS 3	SCALE: D	E3 DRAWING
						E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18			5153824



CAR 1 ISO

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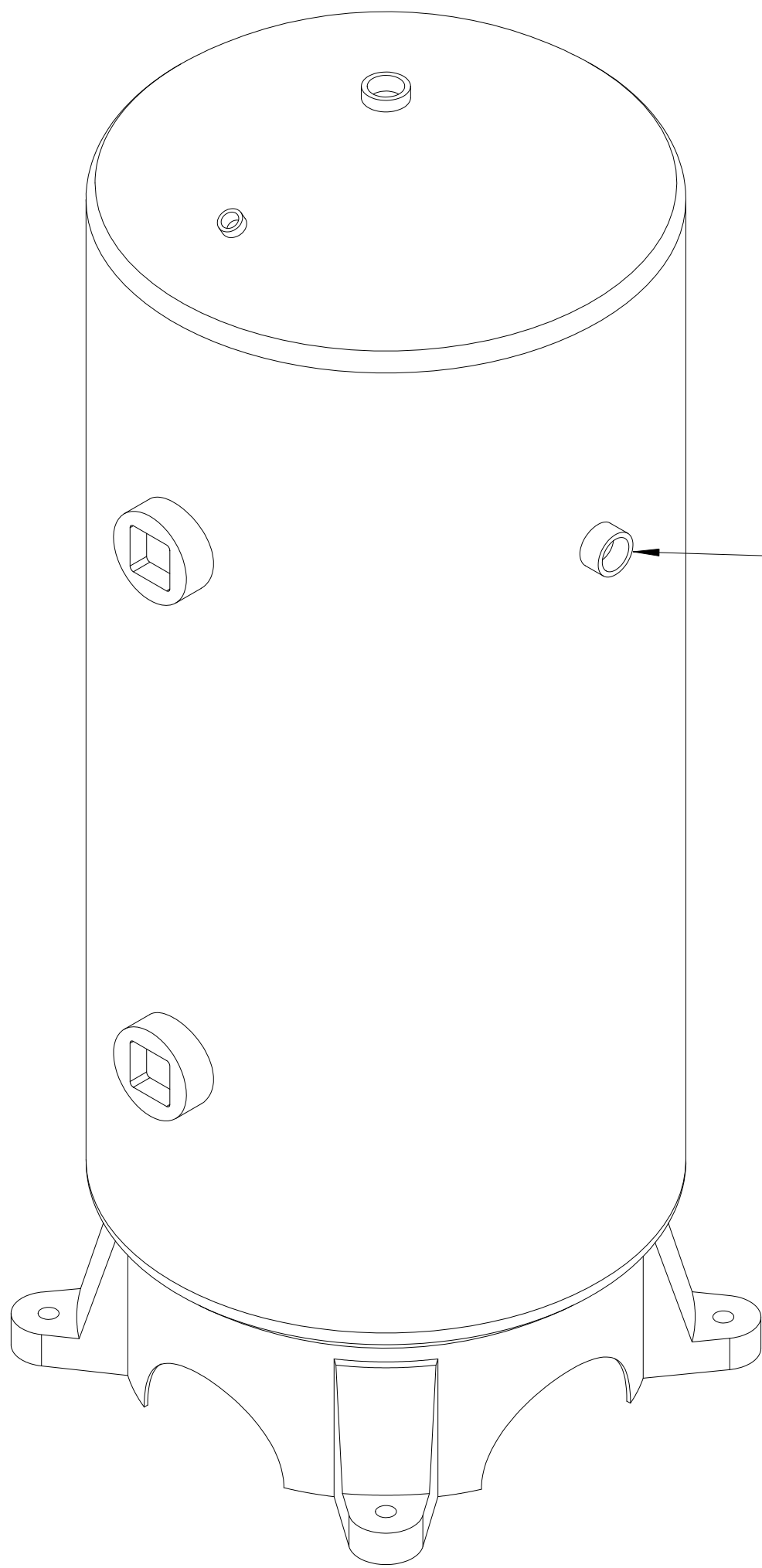
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CHANGE #		REVISION	DR	DATE
EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26
EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION:
KIT, AIR COMP TEMP MONITOR
CAR 1 ISO
MACHINE TYPE-MODEL:
RGE16A1-27
E3 PROJECT FILE NAME:
RGE16A1_CAR1&2_18

SHEET NUMBER	DRAWN BY:
2	ZSJ
NUMBER OF JUPITER SHEETS	REL. DATE:
-	03-20-2026
TOTAL NUMBER OF SHEETS	SIZE:
3	D
	SCALE:

HARSCO
RAIL
E3 DRAWING
5153824

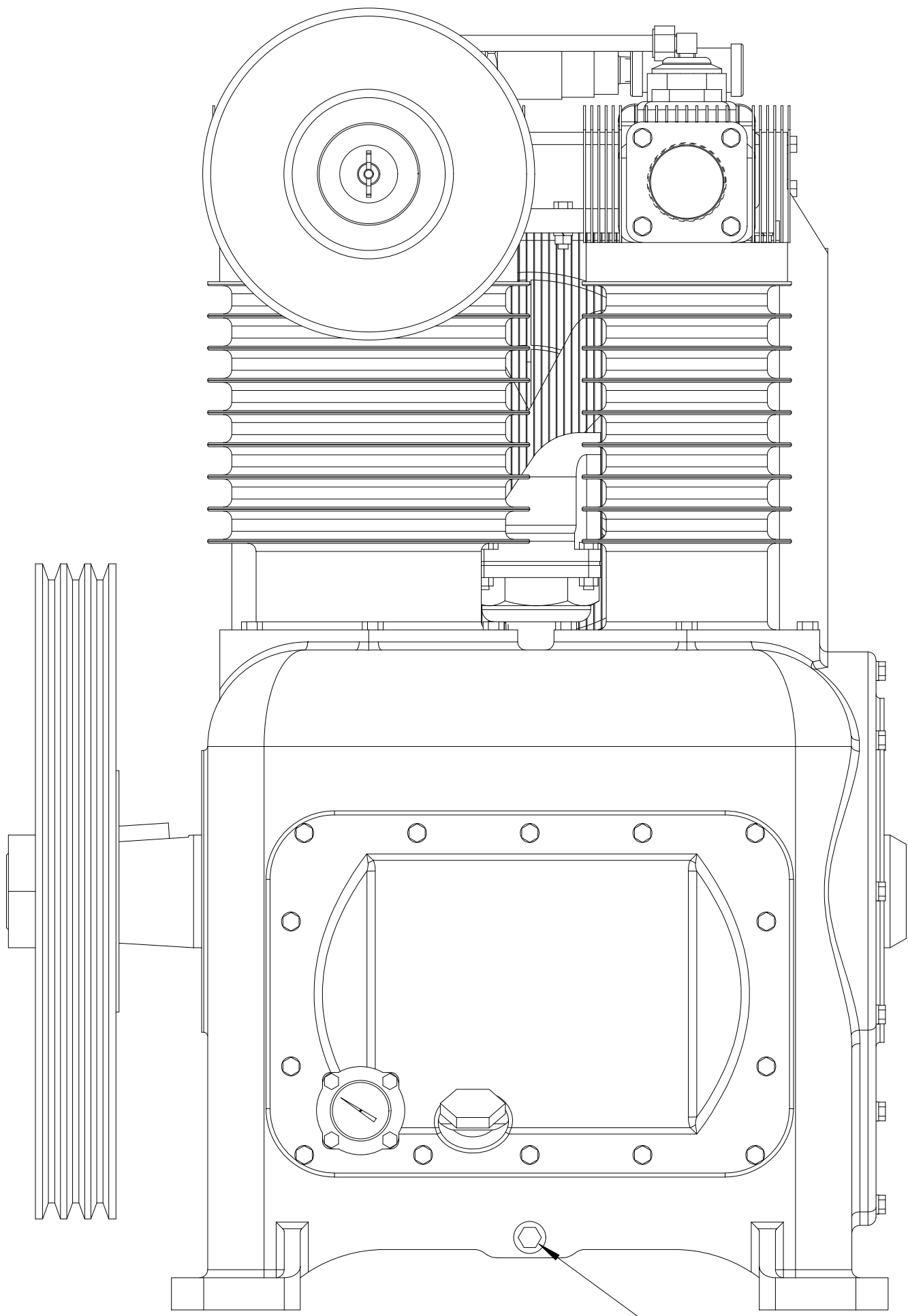


7 9
1 1

SJ11667 AIR COMP AIR TEMP
J11600 3401329

NOTE: REMOVE EXISTING PLUG.
USE LIQUID PIPE THREAD SEALANT
WHEN THREADING IN THE PIPE
BUSHING AND TEMP SENSOR.

CAR 1 WET TANK



7 9
1 1

SJ11567 AIR COMP OIL TEMP
J11500 3401327

NOTE: REMOVE EXISTING PLUG.
USE LIQUID PIPE THREAD SEALANT
WHEN THREADING IN THE PIPE
BUSHING AND TEMP SENSOR.

AIR COMPRESSOR
LEFT SIDE

NOTE: IF THIS AREA SHOWN IS TOO CONGESTED, THERE
IS ANOTHER DRAIN PORT ON THE RIGHT SIDE OF THE
AIR COMPRESSOR THAT CAN BE USED.

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CHANGE #		REVISION	DR	DATE
EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26
EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, AIR COMP TEMP MONITOR CAR 1 WET TANK & AIR COMP
MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

SHEET NUMBER 3	DRAWN BY: ZSJ
NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 3	SIZE: D
	SCALE:

HARSCO
RAIL

E3 DRAWING

5153824

BILL OF MATERIAL				
ITEM	PART #	QTY	PART DESCRIPTION	
1	251203-64	2	SCREW, METRIC	: SCREW, PAN HD, M4 X 30MM, GR4.8, ZP
2	409442	2	NUT, METRIC	: NUT, HEX FLG SRT, M4, GR8, ZP
3	2013760	10 FT	WIRE	: 1.5 SQ.MM (16AWG) GRAY, HALOGEN FREE, 600/1000V
4	3426844	1	TRANSFORMER, CURRENT	: DC CURRENT TRANSFORMER USED W/3426842
5	5153868	1	RELAY, CURRENT	: DC CURRENT CONTROLLER, DC SUPPLY POWER
6	F009863	5	TERMINAL, BUTT	: BUTT CONNECTOR, 16-14AWG, INSULATED
7	F016578	10	TY-RAP	: MEDIUM 7.31"
8	F019381	6	TERMINAL, SPADE	: 1/4" FEMALE, 16-14 AWG, FULLY INSULATED
9	0-3250001-0-45	2	FERRULE	: 16 AWG INSULATED BLACK

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K2530 WIRING

WIRING CHART								
RUN	WIRE	SIZE	COLOR	FROM	TERM NO.	TO	TERM NO.	PART NO
1	000	1.50 mm²	Gray	K2530:V-	F019381	TB2:27	-	2013760
2	2243	1.50 mm²	Gray	K2530:CT+	0-3250001-0-45	T2243:+	F009863	2013760
3	2245	1.50 mm²	Gray	K2530:CT-	0-3250001-0-45	T2243:-	F009863	2013760
4	2460	1.50 mm²	Gray	K2530:V+	F019381	TB1:5	-	2013760
5	2460	1.50 mm²	Gray	K2530:COM	F019381	TB1:5	-	2013760

SEE NOTES 1-3

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EXISTING CABLE - REWORK

DEADMAN ACTIVATE MAIN JB				J04700 3401339	CABLE ASSEMBLY, M12 MAIN JB		
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.	
1	WH-1	J04727	CAN:04:C7	EXISTS	KJ04725:14	EXISTING	
2	WH-2	2545	CAN:04:C7	EXISTS	K2530:NC	F019381	**
3	WH-3	J04725	CAN:04:C7	EXISTS	KJ04725:13	EXISTING	
4	WH-4	2550	CAN:04:C7	EXISTS	K2530:NO	F019381	**

J04700 REWORK NOTES:
1. CABLE J04700, RUNS 1 & 2 ARE IN THE EXISTING MAIN JUNCTION BOX.
2. RUNS 2 & 3 (**) ARE THE NEW CONNECTIONS THAT NEED TO BE LANDED.
IF THE EXISTING LEADS WH-1 AND WH-2 DO NOT REACH K2530, EXTEND LEADS USING WIRE 2013760 AND F019381 BUTT SPLICE.

- NOTES:
- ALL WIRES & CONDUCTORS SHALL BE LABELED (WIRE MARKERS) USING A SLEEVE TYPE NUMBERING SYSTEM.
WIRES ARE TO BE LABELED ON BOTH ENDS EXCEPT WHERE:
- OVERALL WIRE LENGTH IS LESS THAN 4"
- WIRES ARE TERMINATED IN A CONNECTOR (VEAM, CANNON, DIN, ETC.)
 - USE SUPPLIED TY-RAPS AS REQUIRED TO SECURE CABLES AND WIRES NEATLY.
DO NOT USE TY-RAPS IN WIRE TRAYS OR CONDUIT.
 - ROUTE WIRES PER DIAGRAM AND CABLE CHARTS. MAKE ALL CORNERS AS SQUARE AS POSSIBLE.
 - A FILE CONTAINING ALL WIRE, CABLE, & COMPONENT LABELS FOR THIS ASSEMBLY HAS BEEN LOADED AS A DATASET IN TEAMCENTER.

REFERENCE DRAWINGS	
INCLUDE A COPY OF THE FOLLOWING DRAWINGS WITH THIS KIT	
DRAWING #	DESCRIPTION
3411290	ELECTRICAL SCHEMATIC, CAR 1 & 2
5153825	KIT, INTERCOOLER FAN RUNNING

NOTE: PLACE PRINTED DEVICE LABELS, CABLE TAGS, AND WIRE NUMBERS IN PLASTIC BAG AND INCLUDE WITH THIS KIT. SEE NOTE 4.

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CHANGE #		REVISION	DR	DATE
EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26
EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, INTERCOOLER FAN RUNNING BOM, NOTES, & CABLE & WIRE CHARTS
MACHINE TYPE-MODEL: RGE16A1-27
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

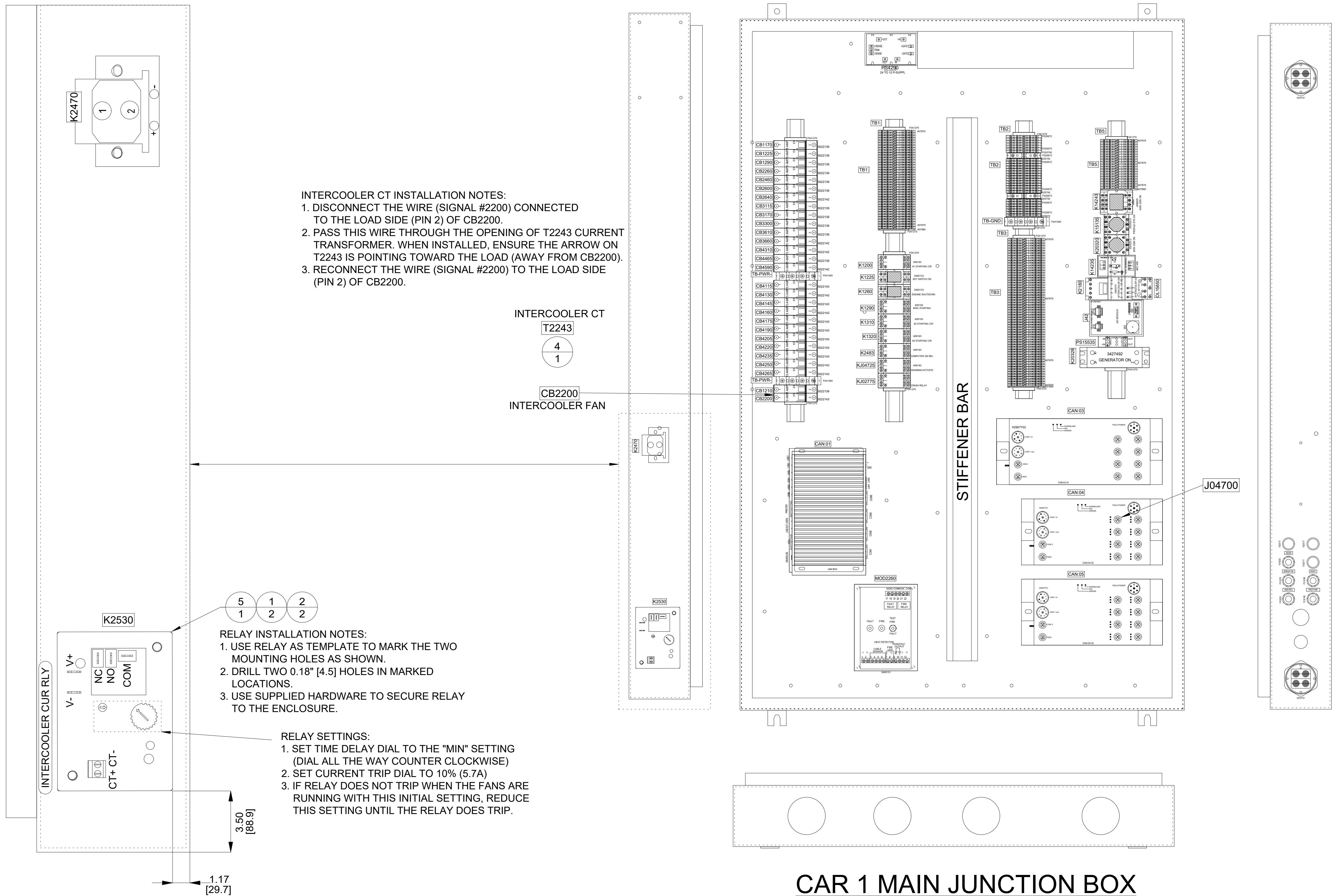
SHEET NUMBER 1	DRAWN BY: ZSJ
NUMBER OF JUPITER SHEETS -	REL. DATE: 03-20-2026
TOTAL NUMBER OF SHEETS 2	SIZE: D
	SCALE:



E3 DRAWING

5153825

CAR 1 MAIN JUNCTION
BOX - BOTTOM LEFT SIDE



CAR 1 MAIN JUNCTION BOX

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	EC622179	A	PRELIMINARY RELEASE	ZSJ	03-20-26		NUMBER OF JUPITER SHEETS	REL. DATE:	
	EC622200	B	FULL DRAWING RELEASE, SEE FOR CHANGE DETAIL	ZSJ	04-08-26		-	03-20-2026	
								SIZE:	
								D	
							TOTAL NUMBER OF SHEETS	SCALE:	
							2		

BILL OF MATERIAL			
ITEM	PART #	QTY	PART DESCRIPTION
1	203437	REF	CONNECTOR, MALE : 4-PIN RECEPTACLE W/18 IN LEADS MALE
2	250202-105	REF	BOLT, METRIC : BOLT, HHCS, M8 X 20MM, CL8.8, ZP
3	250648-8	REF	WASHER, METRIC : WASHER, LOCK, M8, ZP
4	408761	REF	BOLT, METRIC : BOLT, HFCS, M8 X 12MM, CL8.8, ZP
5	408763	REF	BOLT, METRIC : BOLT, HFCS, M8 X 20MM, CL8.8, ZP
6	409323	REF	WELD NUT : M08X1.25 WELD NUT
7	414273	REF	CABLE ASSEMBLY, M23 : CAN MODULE POWER CABLE 10 METERS PIGTAIL
8	414274	REF	CABLE ASSEMBLY, M23 : NETWORK CABLE 0.7METERS M23 MALE/FEMALE
9	3401327	REF	CABLE ASSEMBLY, M12 : 5M M12-M/F 18AWG/5 COND SHLD LSZH
10	3421939	REF	CABLE GRIP : CABLE FROM: 0.31-0.56", 1/2"NPT
11	5061160	REF	ASSEMBLY, ROD : DUST COLLECTOR ROD ASSEMBLY
12	5077262	REF	SENDING UNIT, TEMP : 32-482 F, 0-10 VDC INPUT, HIRSCHMAN CONN
13	5090720	REF	MODULE, ANALOG INPUT : KIT, JUPITER J1+, AI MODULE
14	5096236	REF	COVER : SENSOR COVER, D.C. INLET
15	5096237	REF	COVER : SENSOR COVER, D.C. OUTLET
16	5153870	REF	BRACKET : BRACKET, JUPITER 1+ MODULE
17	0-3250001-0-38	REF	FERRULE : 22-18 AWG INSULATED RED
18	A1563Y19	REF	INSERT, THREADED : M8X1.25 THREADED INSERT
19	F019878	REF	CONDUIT, LOCK NUT : 1/2" CONDUIT LOCK NUT, W/GASKET
20	F041158	REF	NUT, METRIC : NUT, HEX FLG SRT, M8, GR8, ZP

REFERENCE DRAWINGS

INCLUDE A COPY OF THE FOLLOWING DRAWINGS WITH THIS KIT

DRAWING #	DESCRIPTION
3411290	ELECTRICAL SCHEMATIC, CAR 1 & 2
3411291	ELECTRICAL SCHEMATIC, CAR 3
5153826	KIT, DUST COLLECTOR TEMP SENDERS

NOTE: PLACE PRINTED DEVICE LABELS, CABLE TAGS, AND WIRE NUMBERS IN PLASTIC BAG AND INCLUDE WITH THIS KIT. SEE NOTE 7.

- NOTES:
1. ALL WIRES & CONDUCTORS SHALL BE LABELED (WIRE MARKERS) USING A SLEEVE TYPE NUMBERING SYSTEM.
WIRES ARE TO BE LABELED ON BOTH ENDS EXCEPT WHERE:
- OVERALL WIRE LENGTH IS LESS THAN 4"
- WIRES ARE TERMINATED IN A CONNECTOR (VEAM, CANNON, DIN, ETC.)
2. USE SUPPLIED TY-RAPS AS REQUIRED TO SECURE CABLES AND WIRES NEATLY.
DO NOT USE TY-RAPS IN WIRE TRAYS OR CONDUIT.
3. ROUTE WIRES PER DIAGRAM AND CABLE CHARTS. MAKE ALL CORNERS AS SQUARE AS POSSIBLE.
4. ALL CABLES SHALL BE LABELED WITH CABLE MARKERS PLACED IN D8197Y18-SLEEVES PER CABLE CHARTS.
SECURE SLEEVE TO BOTH ENDS OF THE CABLE USING F018229-TY-RAP 2" FROM BOX AND 6" FROM THE FREE END.
ONCE SECURED CENTER MARKER AND TRIM EXCESS SLEEVE ENDS.
5. LABEL STRAIN RELIEF AND M12 CONNECTOR INSIDE OF PANELS PER THE DRAWING USING SELF-ADHESIVE LABELS.
6. USE SUPPLIED P-CLAMPS AND SELF TAPPING HARDWARE AS REQUIRED TO SECURE CABLES NEATLY.
7. A FILE CONTAINING ALL WIRE, CABLE, & COMPONENT LABELS FOR THIS ASSEMBLY HAS BEEN LOADED AS A DATASET IN TEAMCENTER.

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	EC622200	A	NEW RELEASE, IS REFERENCE ONLY	ZSJ	04-08-26		NUMBER OF JUPITER SHEETS	REL. DATE: 04-08-2026	
							-	SIZE: D	
							TOTAL NUMBER OF SHEETS 7	SCALE:	
									E3 DRAWING
									5153826

NEW CABLES - CAR 2 DUST COLLECTOR
TEMP SENSORS

DUST COL INLET TEMP RT FRONT			J15700 3401327		SEE SHEET 4 CABLE ASSEMBLY, M12 DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:15:C7	EXISTS	PJ15750:M12	EXISTS

DUST COL OUTLET TEMP RT FRONT			J15800 3401327		SEE SHEET 5 CABLE ASSEMBLY, M12 DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:15:C8	EXISTS	PJ15850:M12	EXISTS

RECEPTACLE WIRING - CAR 2 DUST COLLECTOR
TEMP SENSORS

SEE TEMP SENSOR ASSEMBLY

DUST COL INLET TEMP J15700			PJ15750 203437		SEE SHEET 2 CONNECTOR, MALE DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BN	J15725	J15700:FEM	EXISTS	RJ15742:1	0-3250001-0-38
2	WH	J15742	J15700:FEM	EXISTS	RJ15742:3	0-3250001-0-38
3	BU	J15759	J15700:FEM	EXISTS	RJ15742:2	0-3250001-0-38
4	BK	**NC**	J15700:FEM	EXISTS	-	-

DUST COL OUTLET TEMP J15800			PJ15850 203437		SEE SHEET 2 CONNECTOR, MALE DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BN	J15825	J15800:FEM	EXISTS	RJ15842:1	0-3250001-0-38
2	WH	J15842	J15800:FEM	EXISTS	RJ15842:3	0-3250001-0-38
3	BU	J15859	J15800:FEM	EXISTS	RJ15842:2	0-3250001-0-38
4	BK	**NC**	J15800:FEM	EXISTS	-	-

NEW CABLES - CAR 3 DUST COLLECTOR
TEMP SENSORS

DUST COL INLET TEMP WATER TANK			J09A300 3401327		SEE SHEET 4 CABLE ASSEMBLY, M12 DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:09A:C3	EXISTS	PJ09A350:M12	EXISTS

DUST COL OUTLET TEMP WATER TANK			J09A400 3401327		SEE SHEET 5 CABLE ASSEMBLY, M12 DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK	-	CAN:09A:C4	EXISTS	PJ09A450:M12	EXISTS

RECEPTACLE WIRING - CAR 3 DUST COLLECTOR
TEMP SENSORS

SEE TEMP SENSOR ASSEMBLY

DUST COL INLET TEMP J09A300			PJ09A350 203437		SEE SHEET 2 CONNECTOR, MALE DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BN	J09A325	J09A300:FEM	EXISTS	RJ09A342:1	0-3250001-0-38
2	WH	J09A342	J09A300:FEM	EXISTS	RJ09A342:3	0-3250001-0-38
3	BU	J09A359	J09A300:FEM	EXISTS	RJ09A342:2	0-3250001-0-38
4	BK	**NC**	J09A300:FEM	EXISTS	-	-

DUST COL OUTLET TEMP J09A400			PJ09A450 203437		SEE SHEET 2 CONNECTOR, MALE DUST COL	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BN	J09A425	J09A400:FEM	EXISTS	RJ09A442:1	0-3250001-0-38
2	WH	J09A442	J09A400:FEM	EXISTS	RJ09A442:3	0-3250001-0-38
3	BU	J09A459	J09A400:FEM	EXISTS	RJ09A442:2	0-3250001-0-38
4	BK	**NC**	J09A400:FEM	EXISTS	-	-

NEW CABLES - CAN:09A NETWORK
& FIELD POWER

CAN:09A FIELD POWER WATER TANK			J09AFP 414273		SEE SHEETS 6 & 7 CABLE ASSEMBLY, M23 E-ROOM P2	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	BK1	6230	CAN:09A:FPWR	EXISTS	TB25:2	-
2	BK2	6230	CAN:09A:FPWR	EXISTS	TB25:2	-
3	BK3	6230	CAN:09A:FPWR	EXISTS	TB25:2	-
4	BK4	000	CAN:09A:FPWR	EXISTS	TB26:32	-
5	BK5	000	CAN:09A:FPWR	EXISTS	TB26:32	-
6	BK6	000	CAN:09A:FPWR	EXISTS	TB26:32	-
7	GY	**NC**	CAN:09A:FPWR	EXISTS	-	-

NOTE: CAN:09A USES EXISTING SPARE CIRCUIT BREAKER CBSP0 FOR POWER.
RELABEL CIRCUIT BREAKER CBSP0 TO CB6230.
RELABEL WIRE FROM CB6230 TO TB25:2 (WAS SP0) TO 6230.

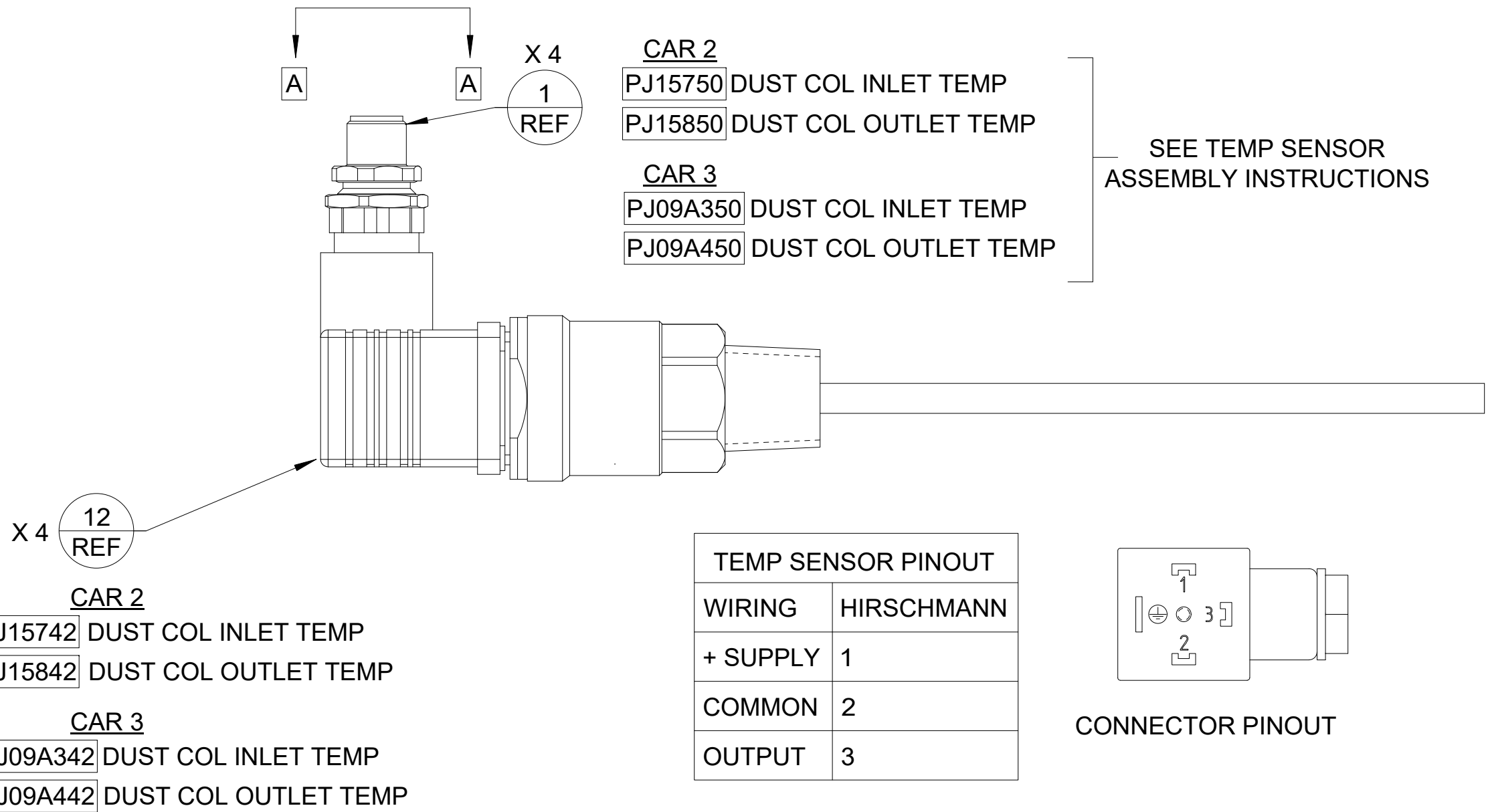
NETWORK 09A TO 10 WATER TANK			NET9A-10 414274		SEE SHEET 6 CABLE ASSEMBLY, M23 WATER TANK	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	PU	-	CAN:09A:C-OUT	EXISTS	CAN:10:C-IN	EXISTS

EXISTING CABLE - REWORK

NETWORK 09 TO 09A WATER TANK			NET9-9A 414274		SEE SHEET 6 CABLE ASSEMBLY, M23 WATER TANK	
RUN	COLOR	WIRE #	FROM	TERM NO.	TO	TERM NO.
1	PU	-	CAN:09:C-OUT	EXISTS	CAN:09A:C-IN	EXISTS

CABLE NET9-10 REWORK
1. AT CAN:10 C-IN, DISCONNECT CABLE NET9-10
2. RECONNECT THIS END OF CABLE NET9-10 TO NEW ANALOG MODULE CAN:09A C-IN
3. RELABEL THIS CABLE NET9-9A

ALL CABLES:
SEE NOTES 1-4 & 6



TEMP SENSOR ASSEMBLY

- ASSEMBLY INSTRUCTIONS:
- 2.1. REMOVE HIRSCHMANN CONNECTOR FROM SENSOR.
 - 2.2. PULL WIRES THROUGH CONDUIT OPENING AND INSTALL RECEPTACLE IN CONDUIT OPENING.
 - 2.3. TRIM RECEPTACLE WIRES TO SUITABLE LENGTH AND TERMINATE PER CHARTS. APPLY WIRE TERMINALS USING RATCHET TYPE CRIMPING TOOL. THE BLACK WIRE IS NOT USED.
 - 2.4. CAREFULLY BUNDLE WIRES INTO HIRSCHMANN CONNECTOR REINSTALL.

VIEW A-A

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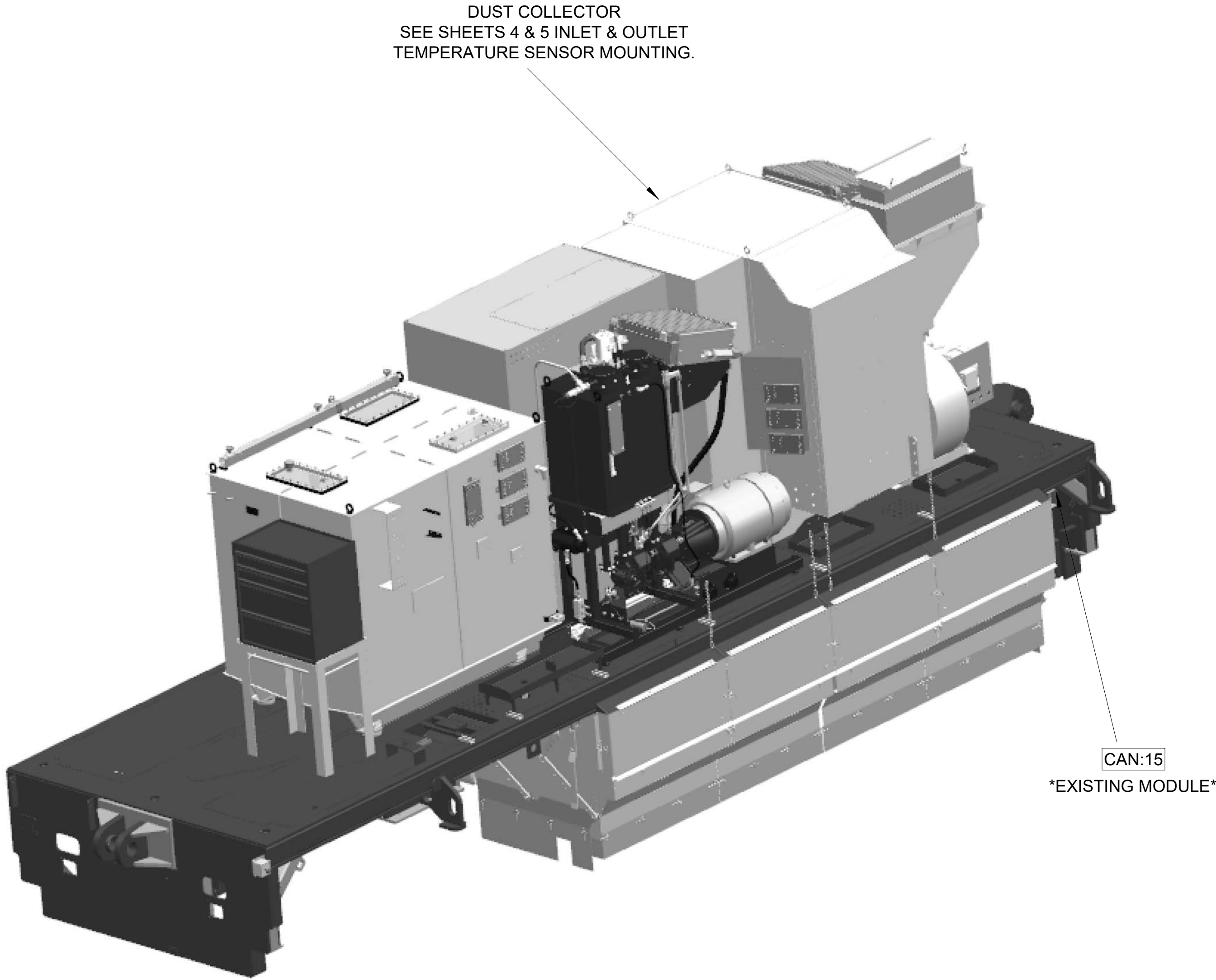
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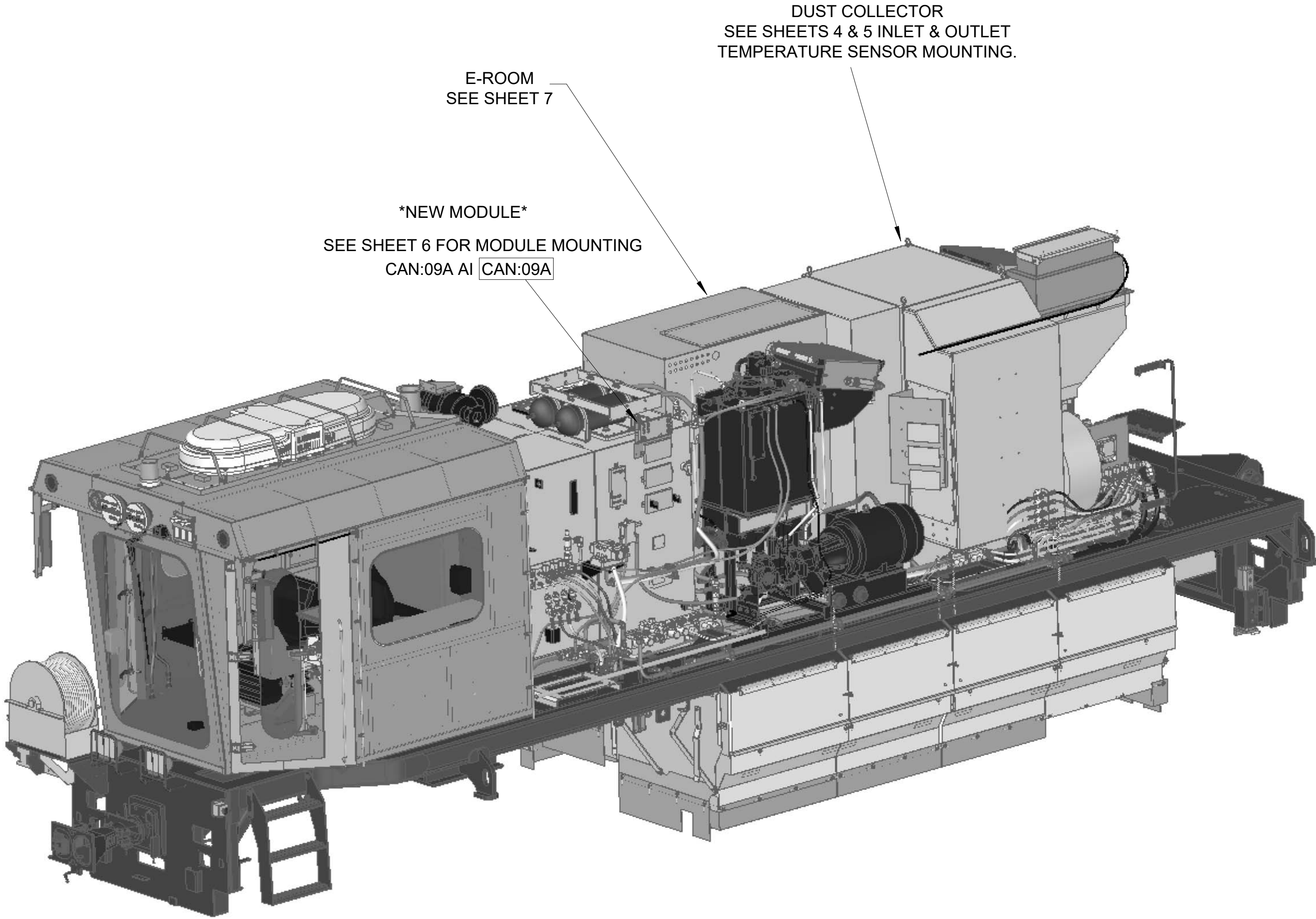
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KIT, DUST COLLECTOR TEMP SENDERS
CABLE CHARTS
MACHINE TYPE-MODEL:
RGE16A1-27
E3 PROJECT FILE NAME:
RGE16A1_CAR1&2_18

SHEET NUMBER	DRAWN BY:
2	ZSJ
NUMBER OF JUPITER SHEETS	REL. DATE:
-	04-08-2026
TOTAL NUMBER OF SHEETS	SIZE:
7	D
	SCALE:

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CAR 2



CAR 3

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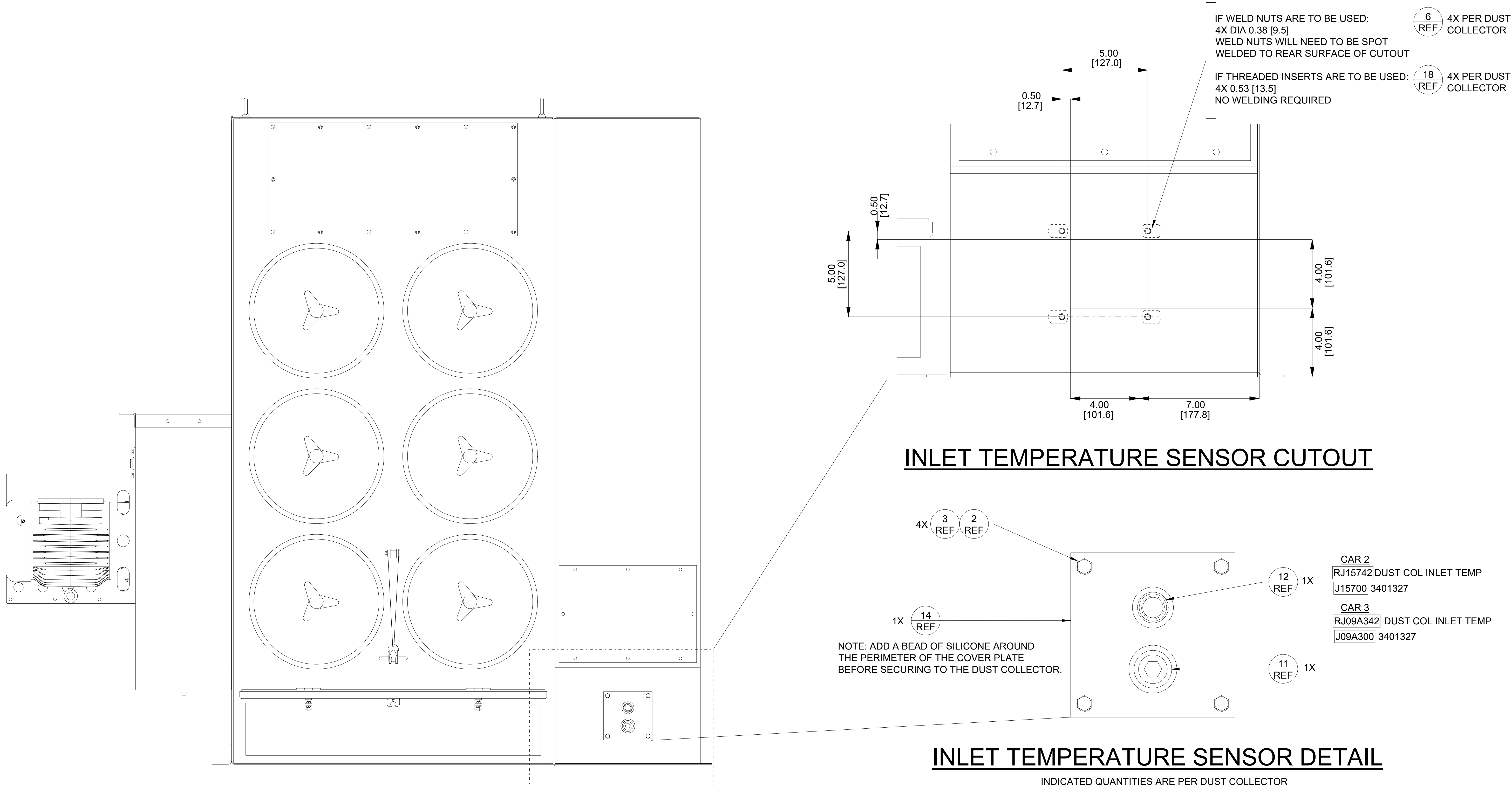
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CHANGE #		REVISION	DR	DATE
EC622200	A	NEW RELEASE, IS REFERENCE ONLY	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, DUST COLLECTOR TEMP SENDERS CAR 2 & CAR 3 ISO	
MACHINE TYPE-MODEL: RGE16A1-27	
E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18	

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NUMBER OF JUPITER SHEETS -	REL. DATE: 04-08-2026
TOTAL NUMBER OF SHEETS 7	SIZE: D
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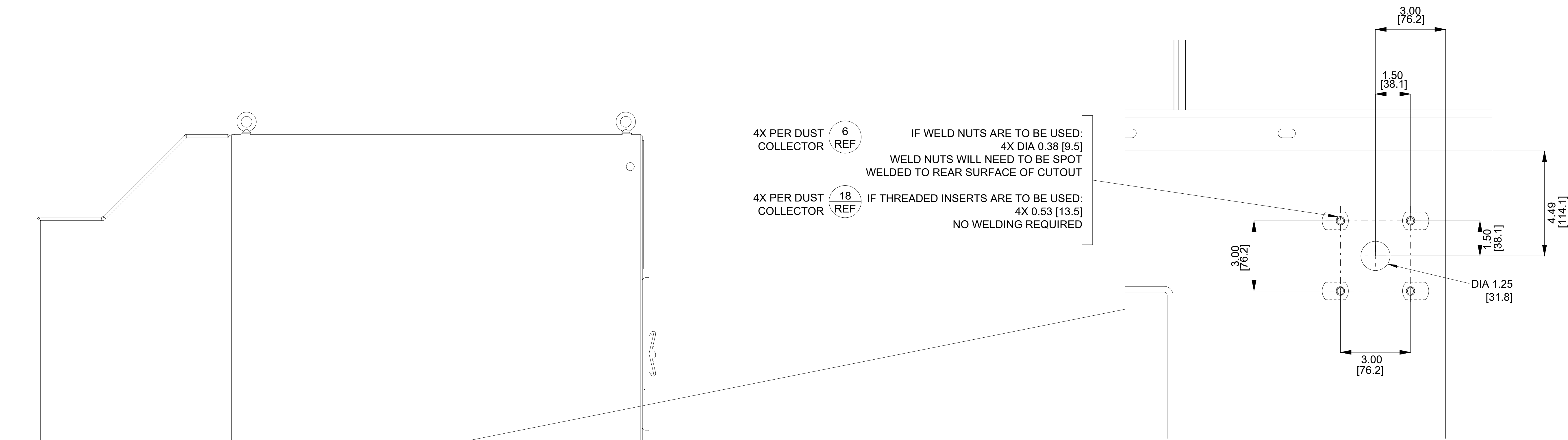
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E3 DRAWING	
5153826	



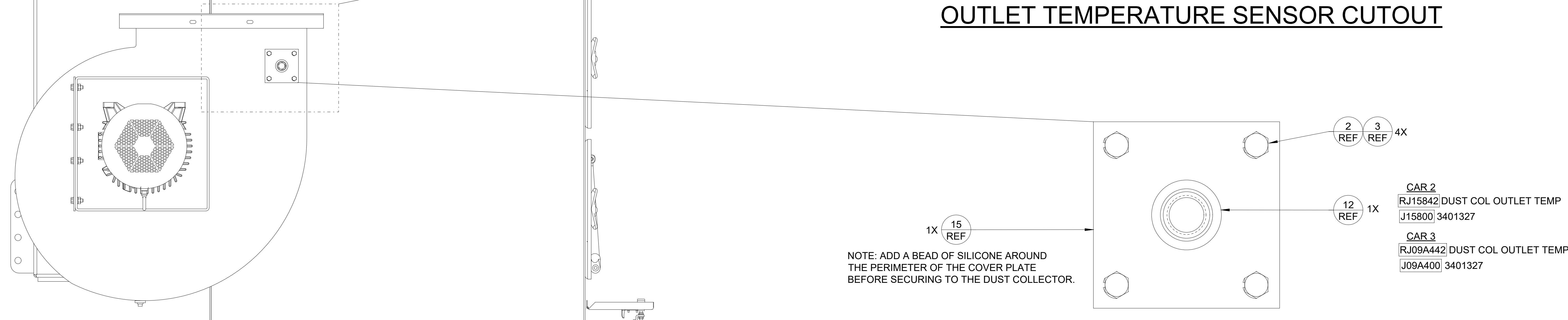
DUST COLLECTOR INLET TEMPERATURE SENSOR LOCATION

STEPS WILL NEED TO BE DONE TO BOTH CAR 2 & CAR 3

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	EC622200	A	NEW RELEASE, IS REFERENCE ONLY	ZSJ	04-08-26	KIT, DUST COLLECTOR TEMP SENDERS	4	ZSJ	
						DUST COLLECTOR INET TEMP	NUMBER OF JUPITER SHEETS	REL. DATE:	
						MACHINE TYPE-MODEL:	-	04-08-2026	
						RGE16A1-27	TOTAL NUMBER OF SHEETS	SIZE: D	
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						RGE16A1_CAR1&2_18			



OUTLET TEMPERATURE SENSOR CUTOUT



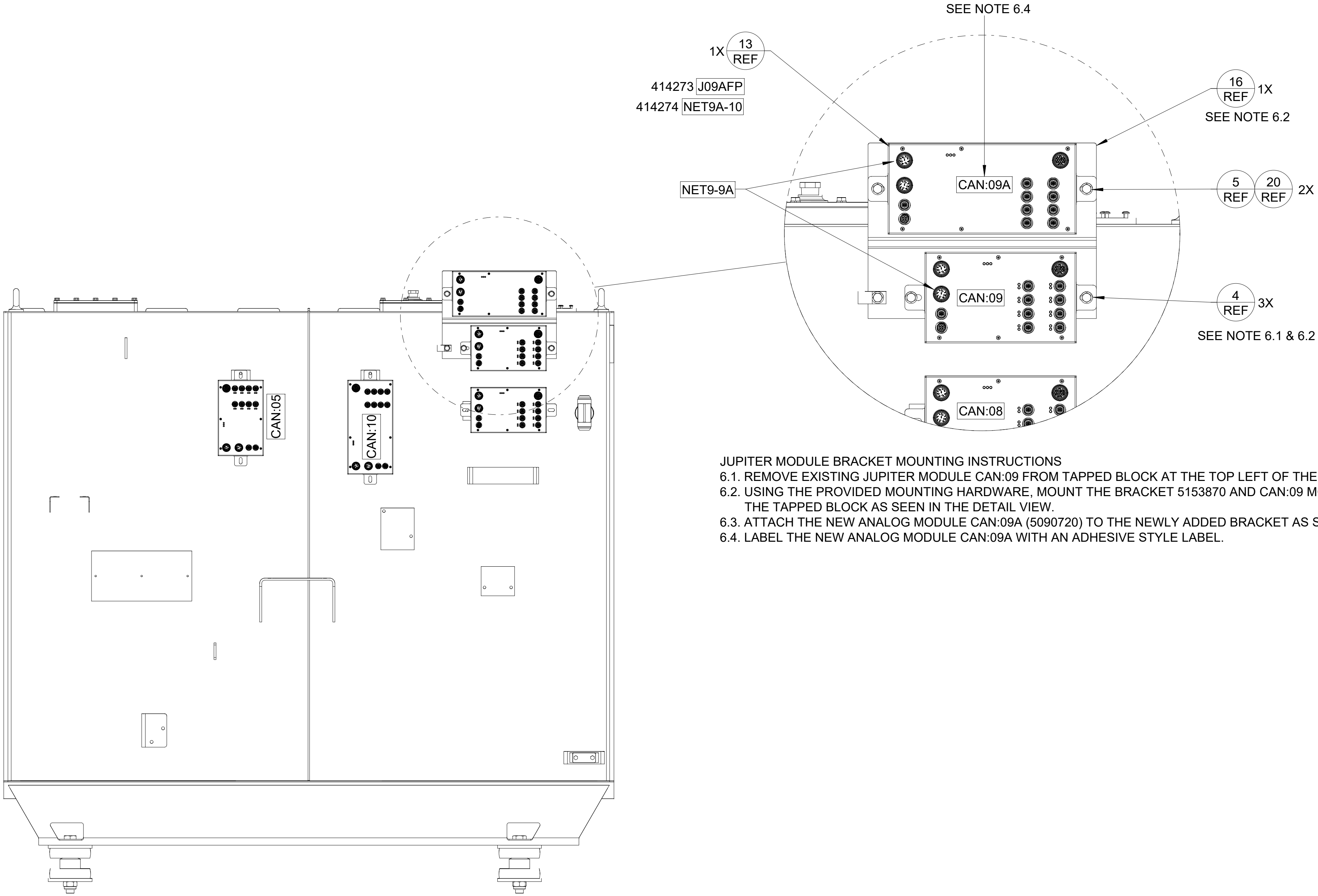
OUTLET TEMPERATURE SENSOR DETAIL

INDICATED QUANTITIES ARE PER DUST COLLECTOR

DUST COLLECTOR OUTLET TEMPERATURE SENSOR LOCATION

STEPS WILL NEED TO BE DONE TO BOTH CAR 2 & CAR 3

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	EC622200	A	NEW RELEASE, IS REFERENCE ONLY	ZSJ	04-08-26	KIT, DUST COLLECTOR TEMP SENDERS	5	ZSJ	
						DUST COLLECTOR OUTLET TEMP	NUMBER OF JUPITER SHEETS	REL. DATE:	
						MACHINE TYPE-MODEL:	-	04-08-2026	
						RGE16A1-27	TOTAL NUMBER OF SHEETS	SIZE:	
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						RGE16A1_CAR1&2_18		SCALE:	



CAR 3 WATER TANK - NEW ANALOG MODULE CAN:09A

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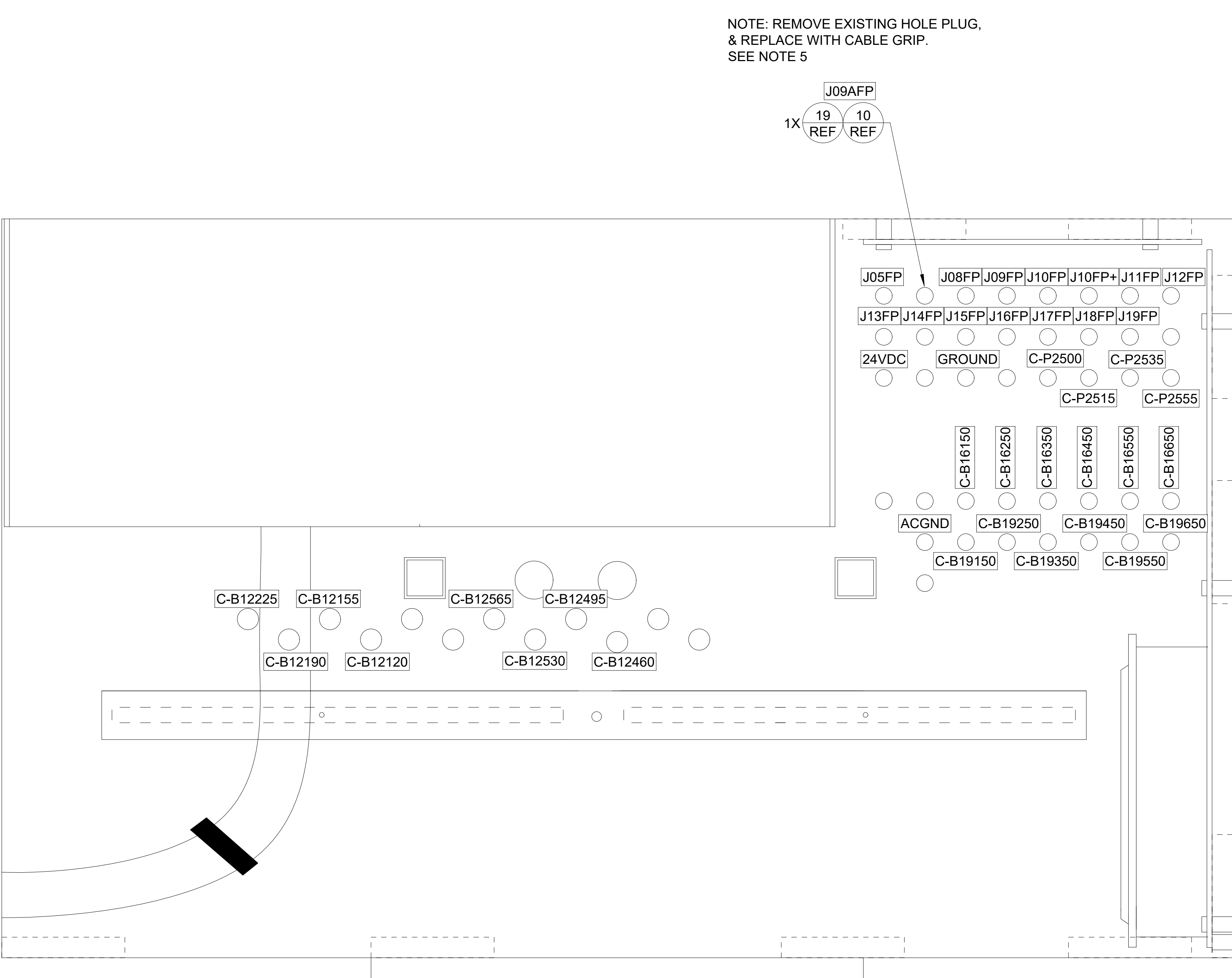
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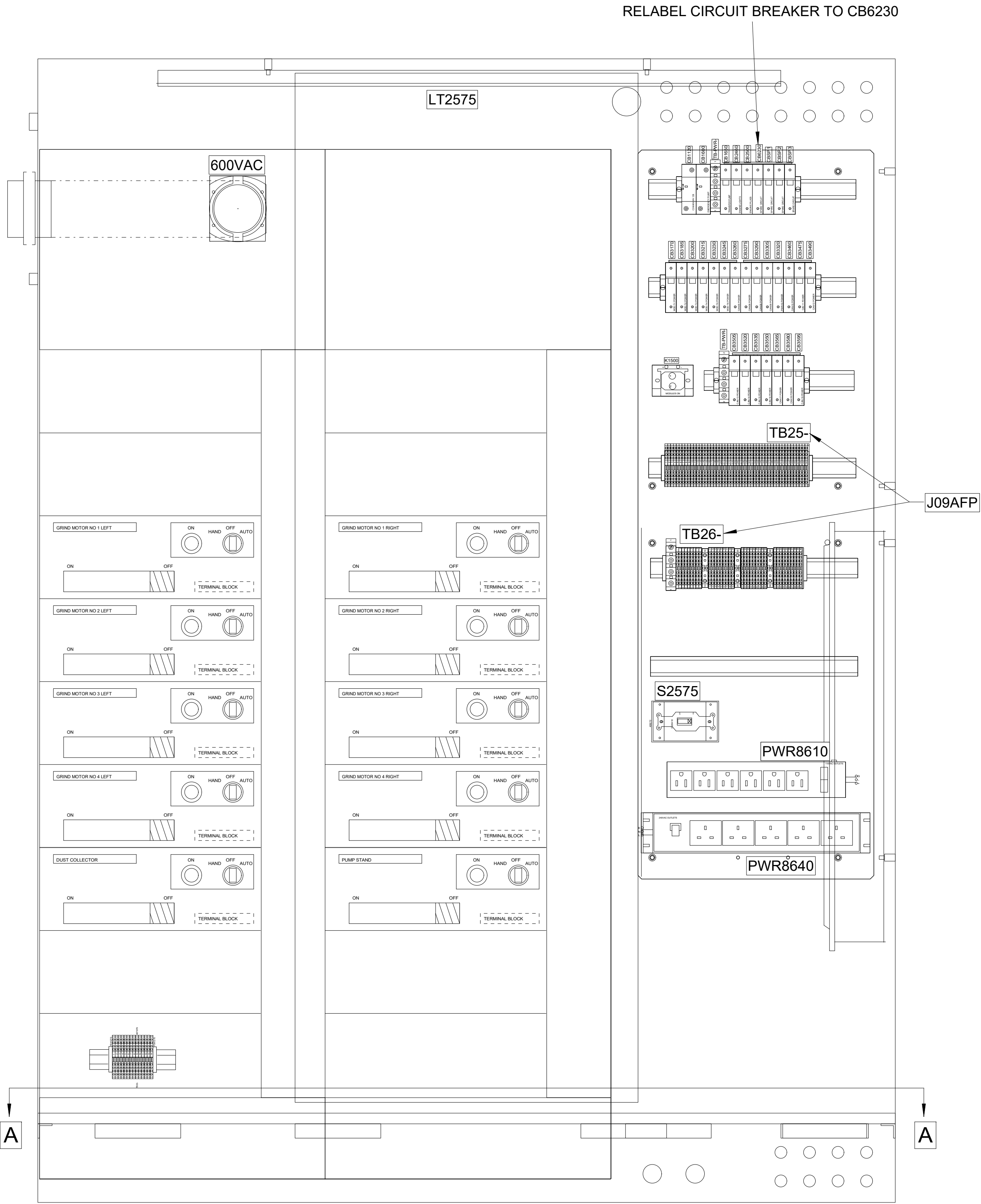
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KIT, DUST COLLECTOR TEMP SENDERS
CAR 3 WATER TANK
MACHINE TYPE-MODEL:
RGE16A1-27
E3 PROJECT FILE NAME:
RGE16A1_CAR1&2_18

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NUMBER OF JUPITER SHEETS	-	REL. DATE:	04-08-2026
TOTAL NUMBER OF SHEETS	7	SIZE:	D
		SCALE:	

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VIEW A-A



CAR 3 E-ROOM

CAR 3 E-ROOM - CAN:09A FIELD POWER

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CHANGE #		REVISION	DR	DATE
EC622200	A	NEW RELEASE, IS REFERENCE ONLY	ZSJ	04-08-26

DRAWING TITLE/DESCRIPTION: KIT, DUST COLLECTOR TEMP SENDERS CAR 3 E-ROOM
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E3 PROJECT FILE NAME: RGE16A1_CAR1&2_18

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NUMBER OF JUPITER SHEETS -	REL. DATE: 04-08-2026
TOTAL NUMBER OF SHEETS 7	SIZE: D
	SCALE:

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