

12VDC (RD-2-7979-0)/ 24VDC (RD-2-7980-0) COMPRESSOR KIT

INSTALLATION INSTRUCTIONS

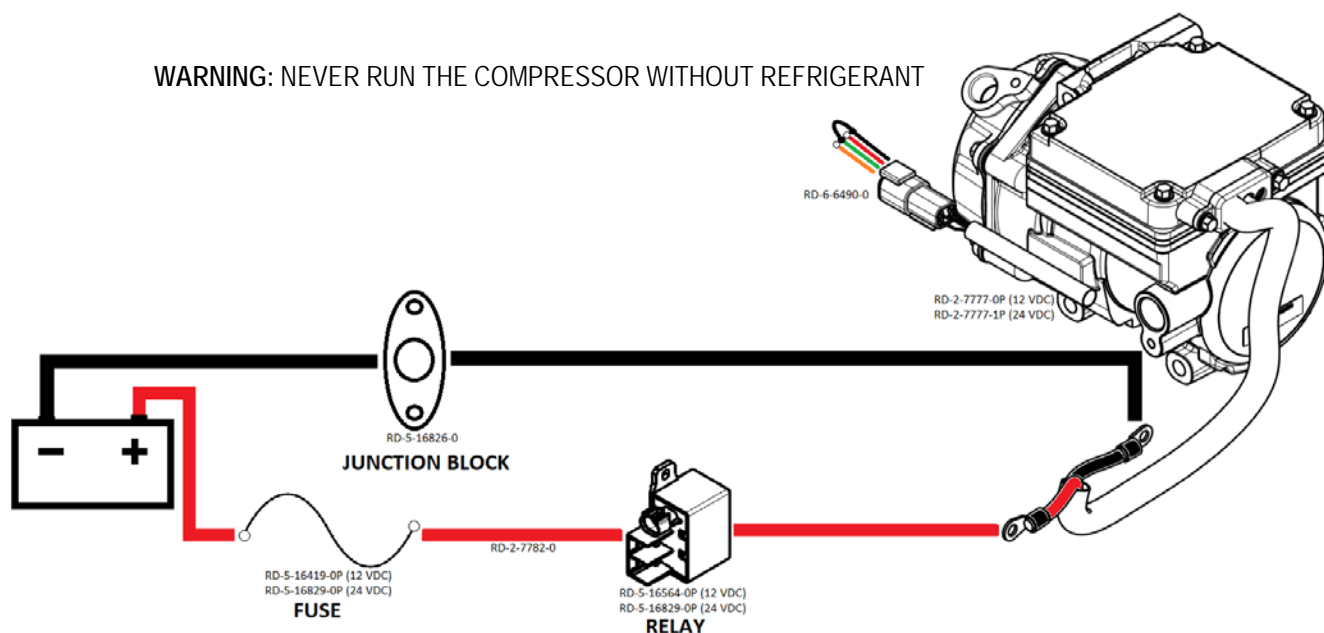
12VDC (RD-2-7979-0) / 24VDC (RD-2-7980-0) COMPRESSOR INSTALLATION INSTRUCTIONS

NOTE:

1. Please read instructions all the way through before beginning work. Not following these instructions may result in voided warranty.
2. This air conditioning compressor only takes R-134a refrigerant and ZEROL ESTER POE 68SL refrigerant oil.
3. Electric Compressors must be covered to protect from weather elements or any moisture.
4. Check that all items called out on the RD-2-7979-0/ RD-2-7980-0 accessory kit list have been included.
5. It is critical that minimum 4GA cable be used for the compressor power/ground runs. Direct connection to battery or nearby terminal blocks with proper fuse protection is required. Fuse and fuse holder are provided in the installation kit. Maximum 26 foot runs allowable for 4GA cable. Using larger wire is acceptable, but voltage drop must be considered. Using cables smaller than 4GA may result in voided warranty and/or damage to vehicle.

A. Installing The Compressor

WARNING: NEVER RUN THE COMPRESSOR WITHOUT REFRIGERANT

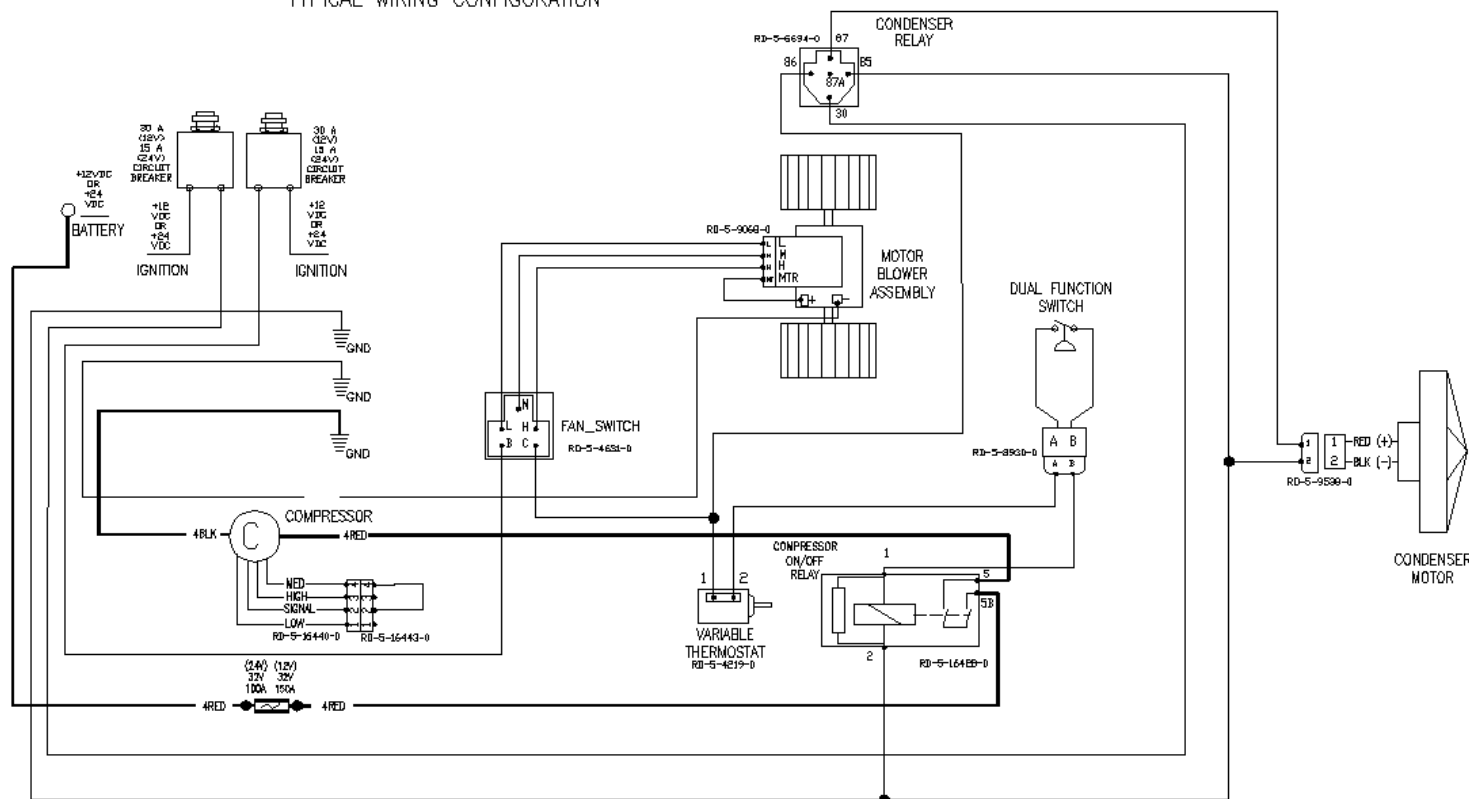


- a. Unit is wired for negative ground.
- b. Compressor Power and Ground Cables must be minimum 4GA.
- c. Fused power source must be used or warranty may be voided.

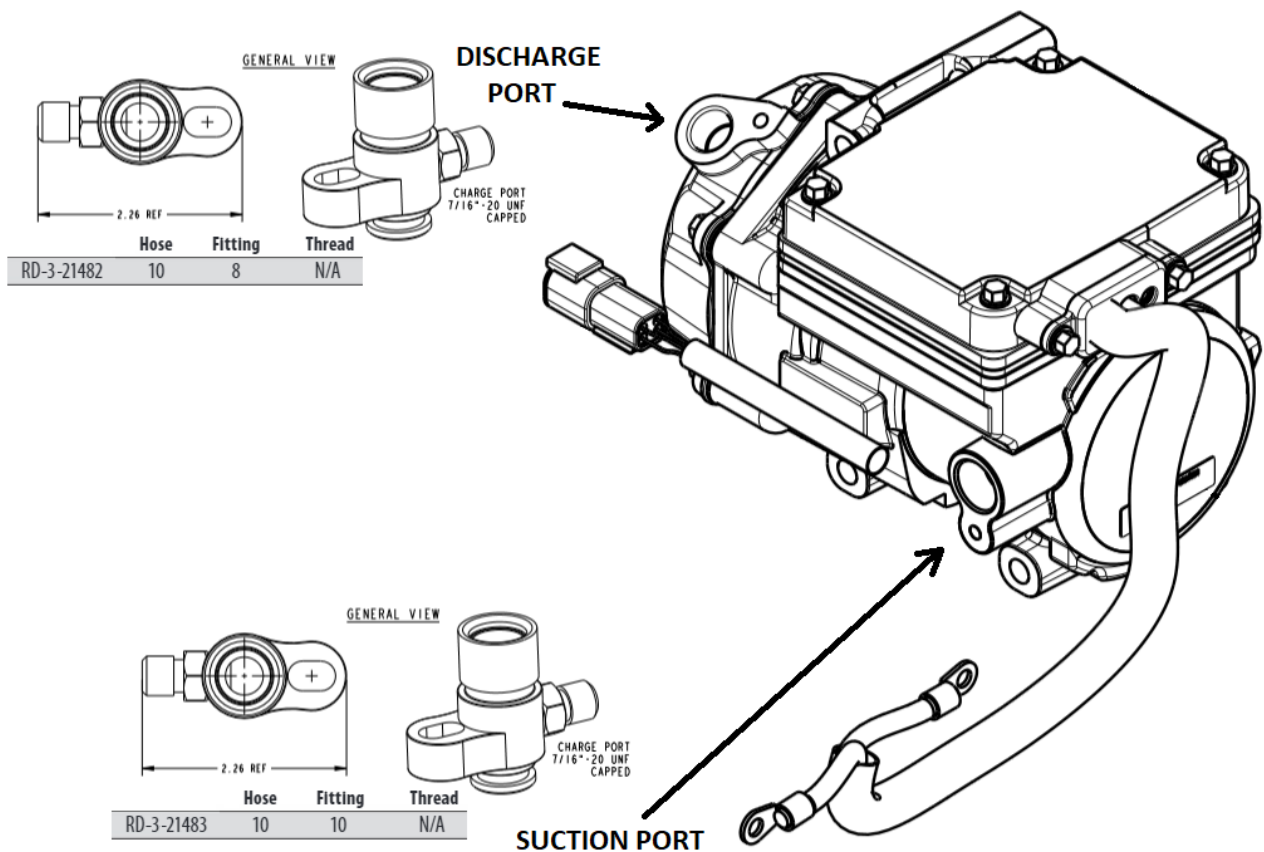
1. Determine the most suitable location for mounting the air conditioning compressor and secure the unit. Note that the compressor must be positioned with minimal tilt (8° side to side and 5° front to back maximum) to ensure proper internal lubrication while running.
2. Connect the positive ring terminal cable of the compressor to the middle slot of the relay. Bolt down the ring terminal with an M6 lock washer (RD-5-6971-0) and M6 nut (RD-5-6619-0).
3. Use the short 4 AWG cable (RD-2-7782-0) to connect the 100A (24V)/150A (12V) fuse to the relay. Securely bolt down the relay with nut 10-32 (RD-5-4073-0).
4. Connect a 4GA Red power cable with ring terminal connection to the open position of the 100A (24V)/150A (12V) fuse, reinstall M5 nut and lock washer (torque 35-44 in-lb), and reinstall fuse cover (RD-5-16418-0P).
5. Connect the negative end of the compressor to a terminal junction block (RD-5-16826-0). The negative terminal of the vehicle power source would connect to this terminal via a minimum 4 AWG cable.
6. Remove the M6 nut and lock washer from the black grounding terminal block near the compressor, attach a 4GA black ground cable with ring terminal, and reinstall M6 lock washer and nut (max. torque: 60 in-lb).
7. The Compressor comes with a preset default speed (medium). The speed of the compressor can be varied to a slower or faster setting. This can be achieved by adjusting the jumper connection on the 4 pin connector (RD-5-16443-0). Currently a jumper exists between the Green and Black connection for the medium (3500R/min) compressor speed setting, however
 - a. Connecting Red and Black gives a slower (2500 R/min) speed setting.
 - b. Connecting Orange and Black gives a faster (4500R/min) speed setting.

ELECTRICAL SCHEMATIC

TYPICAL WIRING CONFIGURATION



B. Plumbing Setup



1. The compressor has a 2 ports shown in the diagram above. Note the suction port has a larger intake fitting (size 10) than the discharge (size 8). Also listed above are the Pad fittings that are suitable for the input and output ports and their respective hose nipple size
2. Below are instructions to properly assemble Aeroquip E-Z Clip hose assemblies. Note the recommended torque for the Size #10 O-ring fitting is 29-37 N-m (21-27 lb-ft) and for the size #8 O-ring fitting is 20-27 N-m (15-20 lb-ft) as recorded in the Table below.

AEROQUIP® E-Z CLIP ASSEMBLY INSTRUCTIONS
Cut the Hose

Cut the hose to proper length with an appropriate cutting tool. Aeroquip's hand-held cutter (79R8930) has been specially designed for cutting all non-wire reinforced hose. Be sure the cut is made square to the hose length.


Slip Two Clips on the Hose

Slide two clips (be sure to use the correct size) onto the cut end of the hose. The orientation of the clips does not affect the performance of the connection. However, for ease of assembly, both clips should be oriented in the same direction. NOTE: If you don't slide the clips over the hose at this time, you will have to stretch the clips over the hose and fitting later. This may permanently damage the clip.


Oil the Nipple

Lubricate the nipple with a generous amount of the refrigeration or A/C system's compressor lubricating oil. This MUST be done to lower the force of nipple insertion.


Insert the Nipple into the Hose

Insert the nipple into the hose. To ensure that the nipple is fully inserted, check the gap between the cut end of the hose and the shoulder of the nipple. Care should be taken to avoid kinking or other damage to the hose during this step. NOTE: Be sure to wipe excess oil from the nipple and hose.


Snap on the Cage

Snap the cage into the groove on the nipple. The arms of the cage should extend over the hose-covered length of nipple. When the cage has been correctly installed in the cage groove, the cage will be able to rotate in the groove. This step MUST be performed to ensure that:

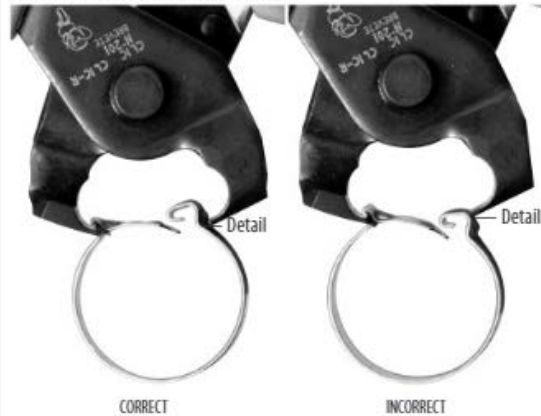
1. The clips will be located over the O-Rings on the nipple.
2. The connection will be compatible with the connection's pressure rating.


Position the Clips

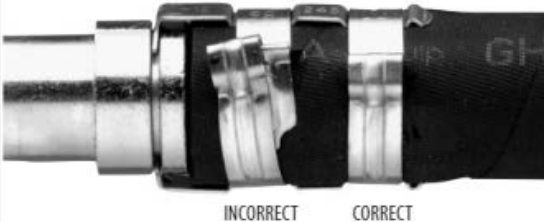
Slide the clips over the cage arms and into the channels on each arm of the cage.


Close the Clips

Using the Connecting Tool (79R8920) to close the clips. The tool should be positioned squarely on the clip connection points and should remain square as pressure is applied and the clip is closed.



The nose of the plier should be firmly seated under the assembly bump and lock latch. If the pliers are not kept square as you close the clip, the clasp may have an offset. Use the pliers to correct the clasp alignment.

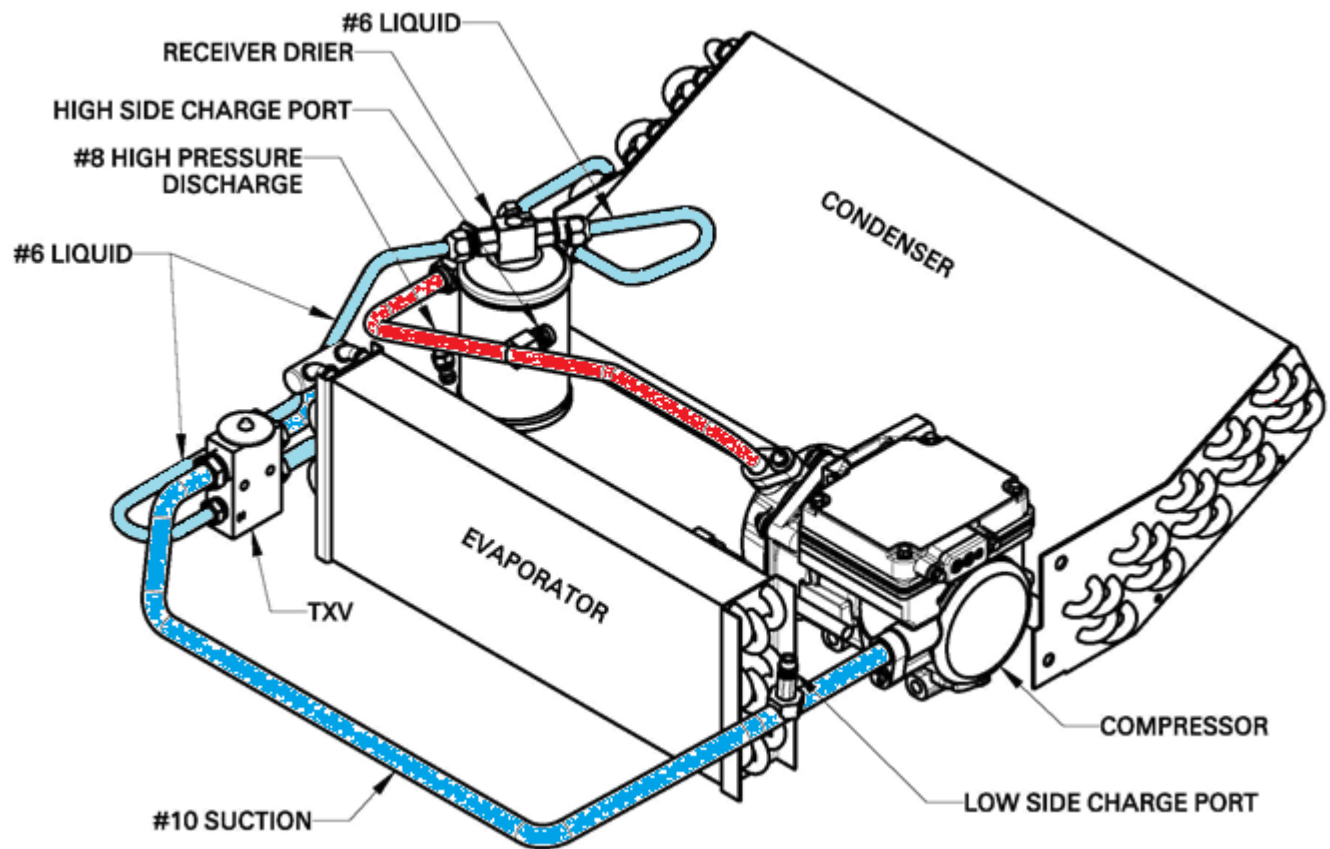


Fitting	#6 Fitting	#8 Fitting	#10 Fitting	#12 Fitting	#14 Fitting
Torque Setting (N-m)	12-15	20-27	29-37	38-41	41-48

3. Route the crimped hoses and pads to the proper inlet/outlet, use an M6 (RD-5-4556-0) washer and M6 (RD-5-5743-0-

25) screw to mount the pad onto the inlet/outlet (torque 70-90 in-lb). The compressor discharge hose runs to the condenser inlet while the Suction hose runs from the evaporator via the expansion valve outlet.

PLUMBING SCHEMATIC



C. Final Assembly And Check

1. Evacuate the system, test for leaks and charge with R-134a.
2. Connect the Battery.
3. Turn the ignition switch to the "on" position, turn the thermostat to the coldest point and the fan switch to "high".
 - a. The compressor should click on and be engaged.
4. Turn the thermostat off and compressor should disengage.
5. Check thermostat to be sure compressor cycles on and off.

RD-2-7979-0					RD-2-7979-0				
LTR	DATE	BY	CHK'D	PROVE OUT	PROO APPR	REVISION			
--	05-16-19	YLG	PLH	---	PLH	INITIAL RELEASE (ER-12731)(EC-MFG6488)			
A	02-13-20	YLG	PLH	---	PLH	RD-2-7777-1 WAS RD-2-7777-0. ADDED RD-3-21478-0 (ER-13806)(EC-MFG6821)			
B	5-12-20	JAH	PLH	---	PLH	ADDED RD-5-17071-0; (ER-14041, EC-MFG6944)			

(B)	1			RD-5-17071-0	OIL - ZEROL ESTER 68T, R134a ELECTRIC COMPRESSOR		
(A)	1			RD-2-7777-1	COMPRESSOR - W/CONNECTOR 12 VDC		
	1			RD-5-16418-0	FUSE HOLDER - 200A MIDI		
	1			RD-5-16829-0	FUSE - 150A BOLT DOWN		
	1			RD-5-16564-0	RELAY - HIGH CURRENT 12VDC		
	1			RD-2-7782-0	WIRE HARNESS - 4 GA FUSE TO RELAY		
	1			RD-6-6490-0	HARNESS - SPEED SELECTOR		
	1			RD-5-16826-0	JUNCTION BLOCK - 1 STUD		
	1			RD-2-7790-1	WIRE HARNESS - 4GA INSTALL GROUND		
	1			RD-2-7790-0	WIRE HARNESS - 4GA INSTALL POWER		
	1			RD-2-7982-0	INSTALLATION INSTRUCTIONS		
(A)	1			RD-3-21478-0	KIT - ELECTRIC COMPRESSOR FTG		
-0	ITEM			PART NO.	DESCRIPTION	MAT'L	FINISH
	DWN	Y.	GRINCHENKO	04-08-19	KIT - ELECTRIC COMPRESSOR 12V		
	CND	P.	HAMBERG	05-16-19			
SCALE: DRAWING SCALE							
RED DOT CORPORATION 495 Andover Park East Seattle, WA 98188					THIS PRINT IS PROPRIETARY INFORMATION LOANED SUBJECT TO RETURN UPON DEMAND AND IS NOT TO BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO RED DOT CORPORATION NEXT ASSY CUSTOMER DWG. NUMBER RD-2-7979		
					SIZE SHEET B I of I		

RD-2-7980-0				RD-2-7980-0			
LTR	DATE	BY	CHK'D	PROVE OUT	REVISION		
--	05-16-19	YLG	PLH	---	PLH	INITIAL RELEASE (ER-12731)(EC-MFG6488)	
A	02-13-20	YLG	PLH	---	PLH	ADDED RD-3-21478-0 (ER-13806)(EC-MFG6821)	
B	5-12-20	JAH	PLH	---	PLH	ADDED RD-5-17071-0; (ER-14041, EC-MFG6944)	

(B)	I		RD-5-17071-0	OIL - ZERO LESTER 68T, RI34a ELECTRIC COMPRESSOR
	I		RD-2-7777-0	COMPRESSOR - W/CONNECTOR 24 VDC
	I		RD-5-16418-0	FUSE HOLDER - 200A MID
	I		RD-5-16419-0	FUSE - 100A BOLT DOWN
	I		RD-5-16390-0	RELAY - HIGH CURRENT 24VDC
	I		RD-2-7782-0	WIRE HARNESS - 4 GA FUSE TO RELAY
	I		RD-6-6490-0	HARNESS - SPEED SELECTOR
	I		RD-5-16826-0	JUNCTION BLOCK - 1 STUD
	I		RD-2-7790-1	WIRE HARNESS - 4GA INSTALL GROUND
	I		RD-2-7790-0	WIRE HARNESS - 4GA INSTALL POWER
	I		RD-2-7982-0	INSTALLATION INSTRUCTIONS
(A)	I		RD-3-21478-0	KIT - ELECTRIC COMPRESSOR FTG
	-0	ITEM	PART NO.	DESCRIPTION
		DWN	W. GRINCHENKO	04-08-19
		CKD	P. HAMBERG	05-16-19
		SCALE: DRAWING SCALE		
		RED DOT CORPORATION 495 Andover Park East Seattle, WA 98188		
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RD-3-21478-0				RD-3-21478-0			
LTR	DATE MMDDYY	BY	CHKD	PROVE OUT	PROD APPR	REVISION	
-	4-8-19	JMB	RCM	TMH	CDJ	INITIAL RELEASE (ER-12669, EC-MFG6330)	

2 BAG THESE ITEMS TOGETHER FOR SHIPMENT WITH OTHER COMPONENTS.

1 BAG THESE ITEMS TOGETHER FOR SHIPMENT WITH OTHER COMPONENTS

NOTE:

1		RD-3-21482-0	PAD FTG - #8
1		RD-3-21483-0	PAD FTG - #10
2	2	RD-5-5743-0-25	SCREW - M6 X 1.0 - 6g METRIC HEX CAP
2	2	RD-5-4235-0	WASHER - 1/4 X 9/16, STEEL (BLACK)
1	1	RD-5-16449-0	O-RING - #10 -113 HNBR
1	1	RD-5-16448-0	O-RING - #8 -111 HNBR
-0	ITEM	PART NO.	DESCRIPTION
	DWN	J. BOWER	3-19-19
	CKD	R. MASSIE	4-4-19
SCALE: DRAWING SCALE			
RED DOT CORPORATION 495 Andover Park, East Seattle, WA 98188			
NEXT ASSY CUSTOMER			DWG. NUMBER RD-3-21478
SIZE			B
SHEET			1 of 1

KIT - ELECTRIC COMPRESSOR FTG			
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