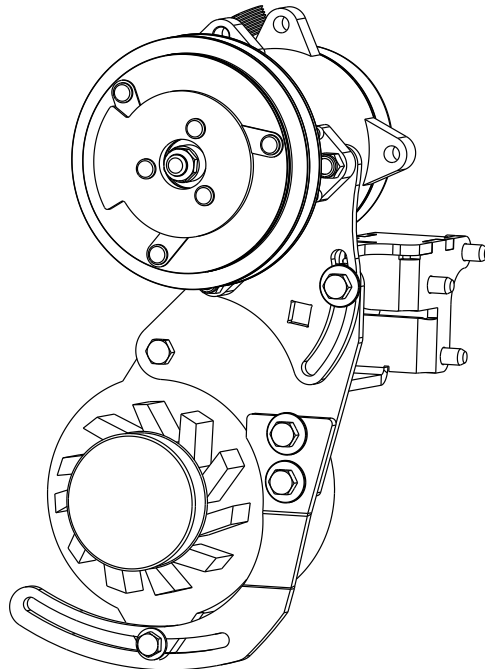




1968-83 Toyota FJ40

Compressor/OEM Alternator Bracket Kit

(158217)



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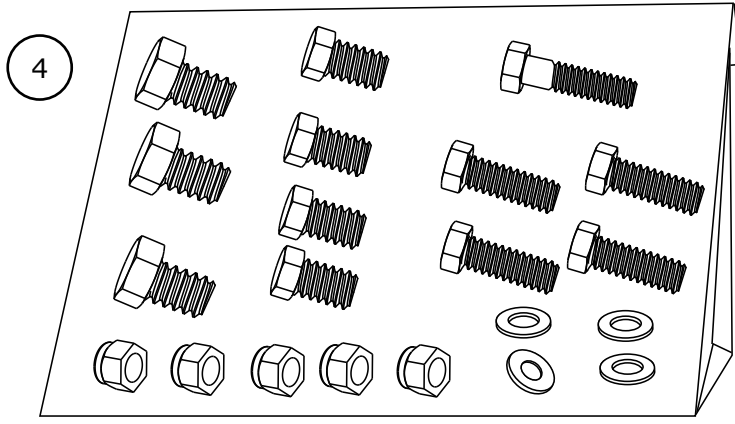
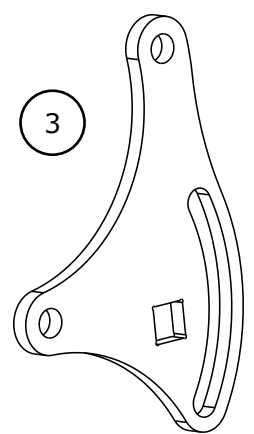
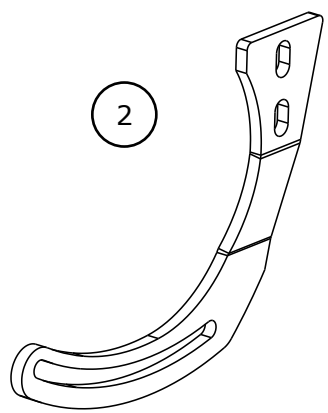
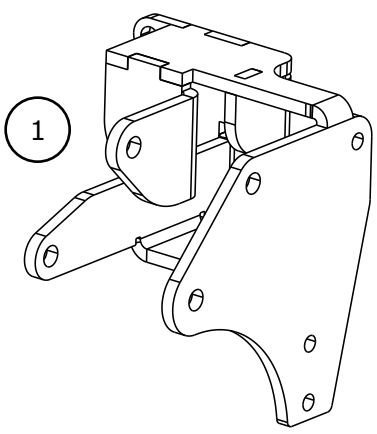


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Packing List: Bracket Kit (158217)

No.	Qty.	Part No.	Description
1.	1	158220	Bracket Assembly, Compressor/OEM Alternator
2.	1	158222	Bracket, Alternator Adjustment
3.	1	158212	Bracket, Compressor Adjustment
4.	1	191131	Hardware Kit

**** Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.**



NOTE: Images may not depict actual parts and quantities. Refer to packing list for actual parts and quantities.

Preliminary Information

Before beginning, please note the following:

1. This bracket kit requires a harmonic balancer with (2) wide grooves. **NOTE: An add-on kit for single-groove harmonic balancers (Part # 732104) is available through Vintage Air.**
2. This bracket kit requires a water pump pulley with (2) wide grooves. **NOTE: A (2) wide-groove water pump pulley for long-nose water pumps (Part # 732109) is available through Vintage Air.**
3. Vintage Air's FJ40 SureFit system requires a minimum 50-amp alternator. **NOTE: Vintage Air recommends upgrading to a 100-amp 10si or 12si alternator. While the OEM 50-amp alternator will work with the SureFit system, additional accessories will require additional amperage. Vintage Air offers a compressor/GM alternator bracket kit (158209) that fits the 100-amp 12si alternator with clocking positions of 12:00 and 6:00. Evaluating system requirements and rewiring for higher amperage alternators (using 8 AWG wire) is the sole responsibility of the customer.**
4. This bracket kit is designed to accept OEM alternators with mounting ears at either 12:00 and 6:00 or 1:00 and 6:00. For alternators with mounting ears at 12:00 and 6:00, use the alternator adjustment bracket as shown in Figure 1, below. For alternators with mounting ears at 1:00 and 6:00, use the alternator adjustment bracket as shown in Figure 2, below.
5. Once the bracket mounting position is determined, use (2) 3/8-16 x 3/4" hex bolts and (2) 3/8" flat washers to mount the alternator adjustment bracket to the compressor/OEM alternator bracket as shown in Figure 3, below.

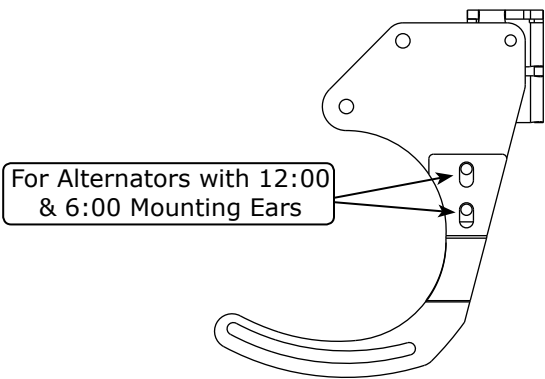


Figure 1

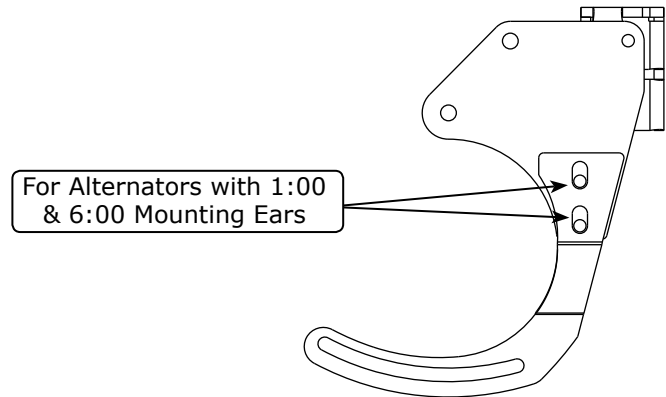


Figure 2

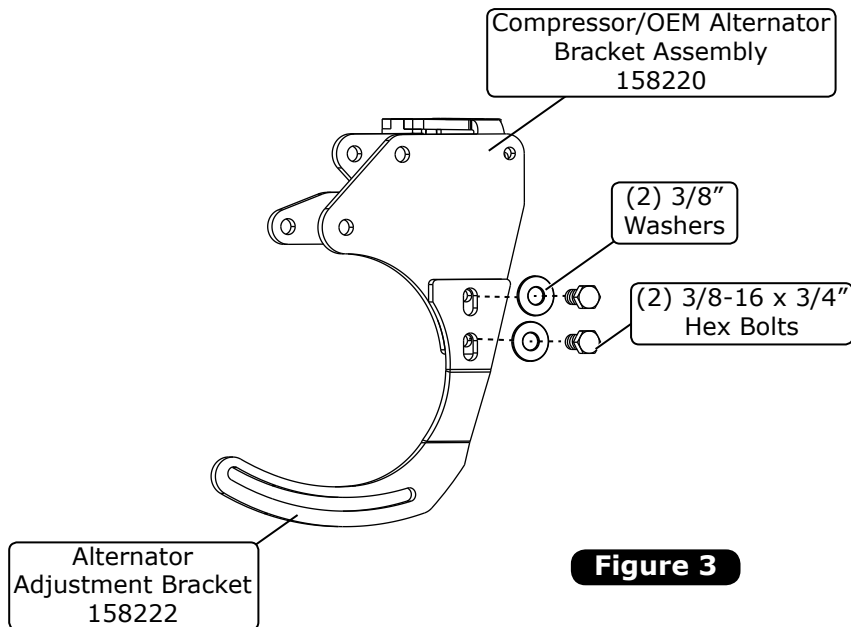


Figure 3



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Engine Compartment Disassembly

1. Remove the battery.
2. Remove the (4) bolts attaching the battery tray to the support bracket, and remove the battery tray (retain) (See Photo 1, below).
3. Remove the fan shroud and blade (retain bolts).
4. Remove the alternator (discard bolts).



Photo 1

Battery
Tray

Remove (4) Bolts

Compressor/OEM Alternator Bracket Installation

1. Using an M10 x 1.25 metric tap, clean the (3) accessory mounting holes on the passenger side cylinder head to clear away any debris (See Photo 1, below).
2. Install the compressor/OEM alternator bracket onto the cylinder head using (3) M10 x 1.25 x 20mm hex bolts as shown in Figure 1, below. **NOTE: The installed bracket is shown in Photo 2, below.**

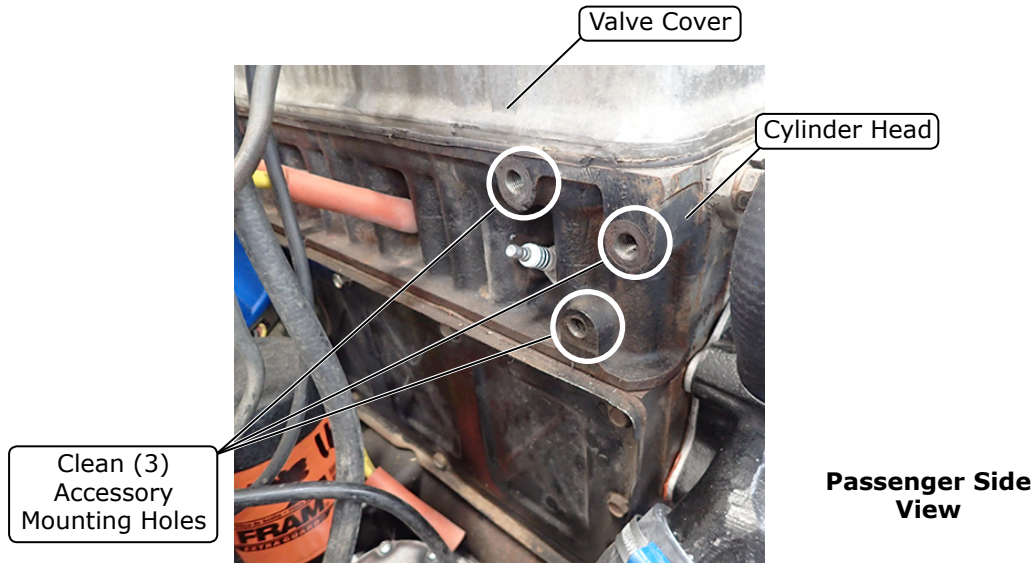


Photo 1

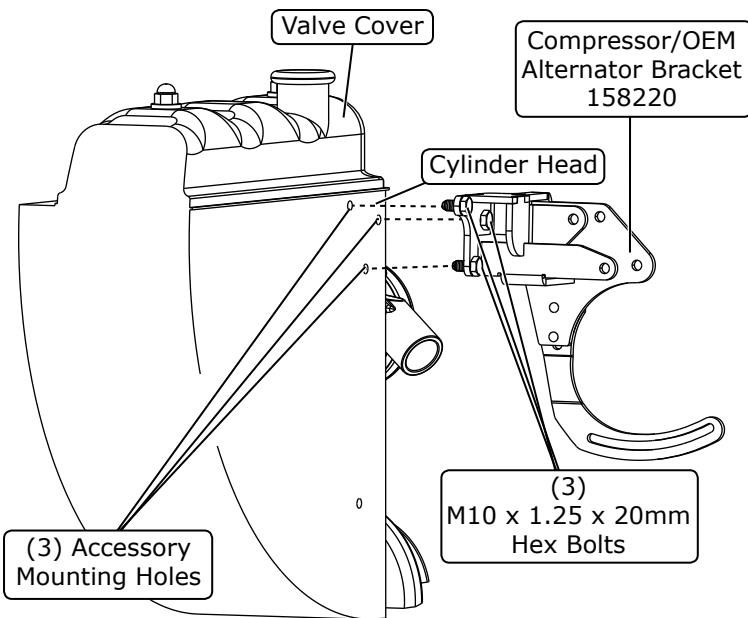


Figure 1



Photo 2

Alternator Installation

1. Install the alternator onto the compressor/OEM alternator bracket using (2) 3/8-16 x 1 1/4" hex bolts and (2) 3/8-16 locknuts as shown in Figure 1, below.
2. Install an M8 x 1.25 x 20mm hex bolt and a 5/16" washer through the bracket's adjusting slot and into the alternator as shown in Figure 1, below.
3. Extend or modify the wiring as necessary, and then connect it to the alternator.

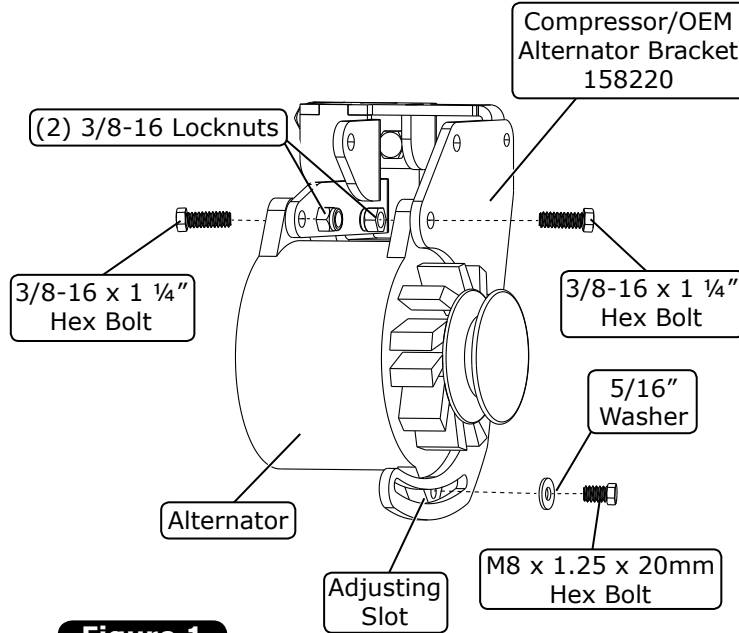


Figure 1

Compressor Adjustment Bracket Installation

1. Install the compressor adjustment bracket onto the compressor using a 3/8-16 x 1 1/4" hex bolt and a 3/8" locknut as shown in Figure 1, below. **NOTE: Ensure the bracket is installed on the compressor at Mounting Ear B, opposite the oil fill plug (See Figure 1 and Photo 1, below). Do not tighten the bolt at this time.**

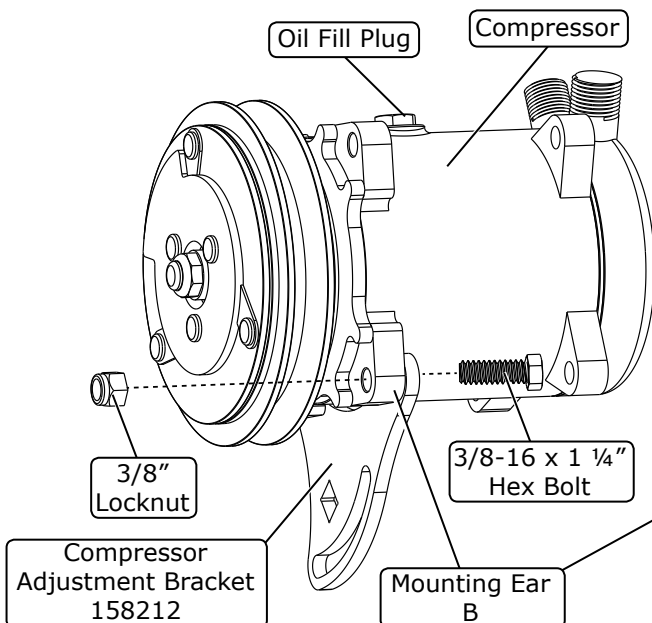


Photo 1

Figure 1

Compressor Installation

1. Install the compressor onto the compressor/OEM alternator bracket using a 3/8-16 x 1 1/4" hex bolt, a 3/8-16 x 1 1/2" hex bolt, a 3/8-16 x 3/4" hex bolt, a 3/8" washer and (2) 3/8" locknuts as shown in Figure 1, below.
NOTE: The installed compressor is shown in Figure 2, below. Do not tighten the bolts at this time.

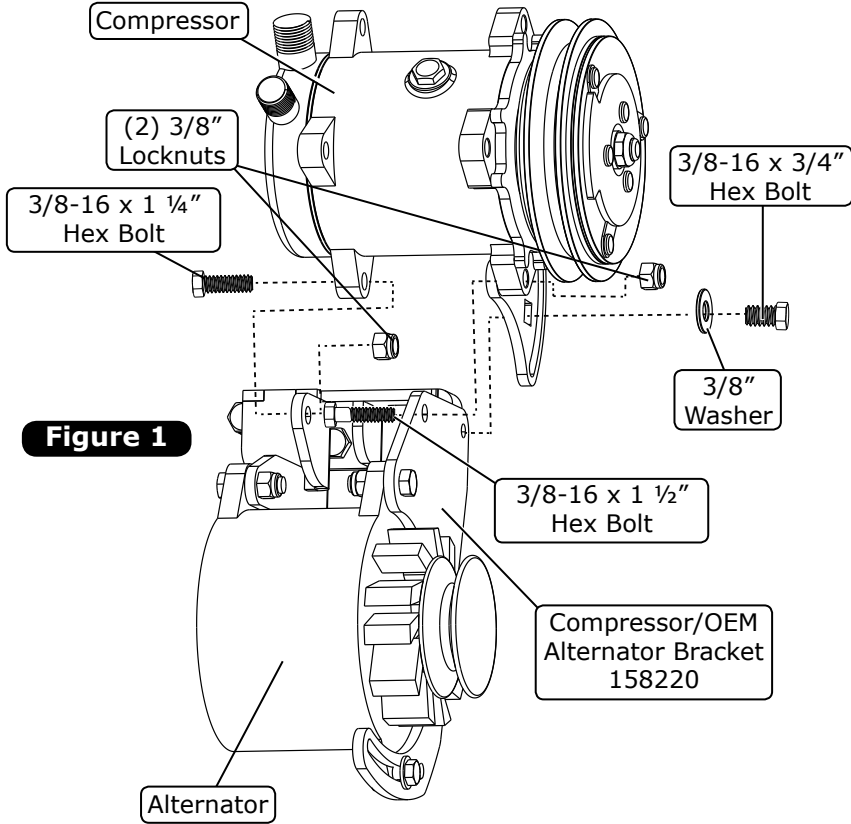


Figure 1

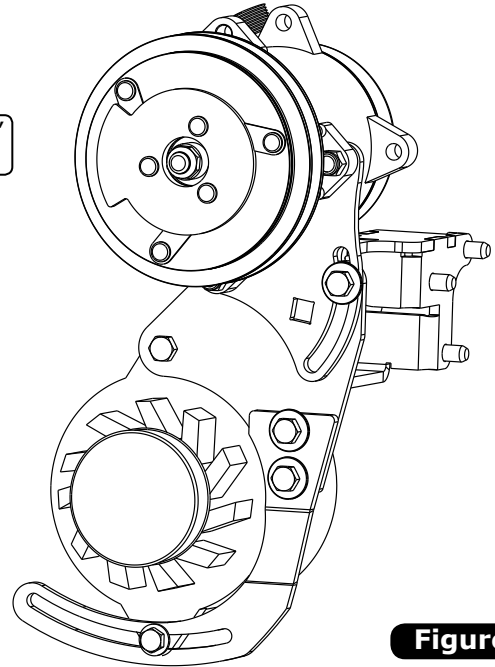


Figure 2

**Finished Assembly,
 Front View**

Battery Tray Relocation

NOTE: The battery tray will need to be relocated approximately 4" toward the firewall to provide clearance for the compressor and/or alternator.

1. Determine a suitable mounting location, and mount the battery tray on the battery tray support bracket.
NOTE: There may be OEM holes or slots in the base plate, or it may be necessary to drill new mounting holes. This kit provides (4) 1/4-20 x 1" bolts and (4) 1/4-20 nuts for use if needed.



Photo 1

Fan Shroud Modification and Installation

NOTE: With the installation of the compressor, it may be necessary to trim the fan shroud to clear the compressor's pulley. Since there are different OEM fan shrouds that fit the Toyota FJ40, Vintage Air cannot provide trim dimensions for the fan shroud. Below are examples of cuts made to the R&D build of the kit (See Photos 1 & 2, below).

1. After securing the compressor and before installing the belt, position the compressor as it will be when the belt is installed. Test fit the fan shroud, and mark for trimming. **NOTE: The fan shroud should be trimmed so the compressor can swing when adjusted and a belt can be installed without removing the fan shroud.**
2. After trimming the shroud, install the fan blade and shroud with the OEM bolts.



Reference Only **Photo 1**



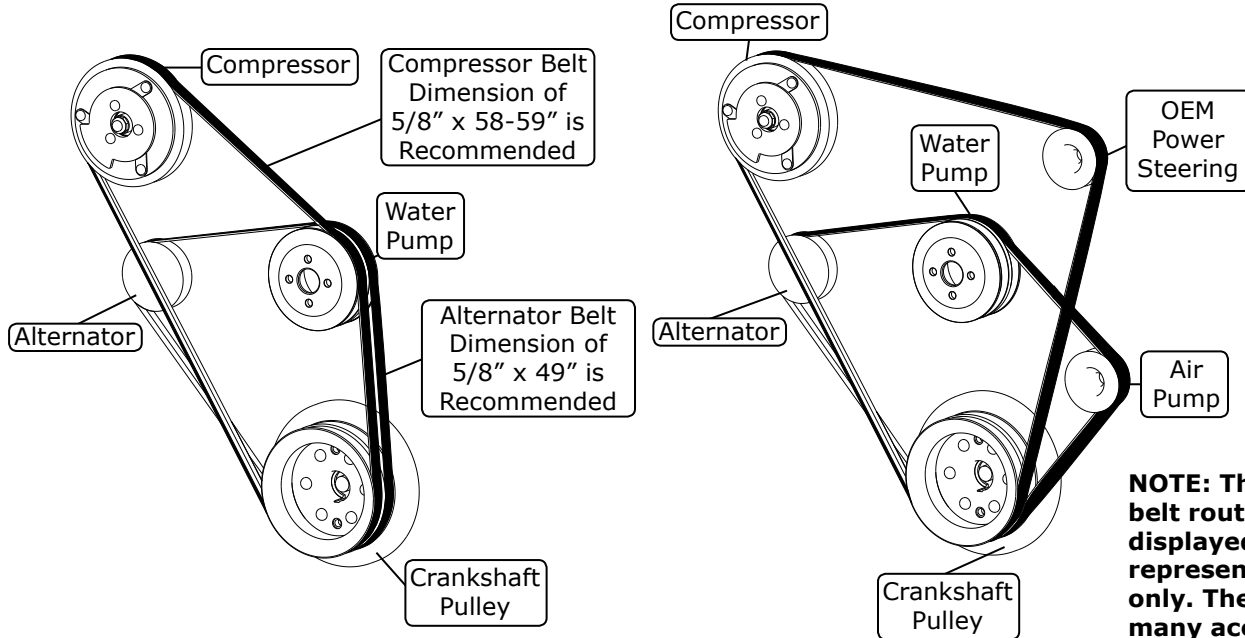
Reference Only **Photo 2**

Final Steps

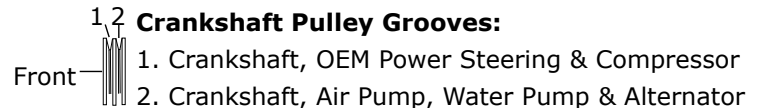
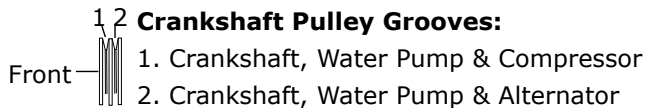
1. Install and adjust belts (See Belt Routing, Page 10).
2. Tighten all bolts.
3. Reinstall the battery.

Belt Routing

1. Route the belts as shown below. Vintage Air recommends using only Dayco, Gates or Goodyear brand reinforced V-belts with this bracket kit. **NOTE: Belt lengths may vary depending upon the accessories present and the diameter of the water pump, crankshaft, alternator, and power steering pulleys.**



NOTE: The belt routings displayed are for representation only. There are many accessory variations.



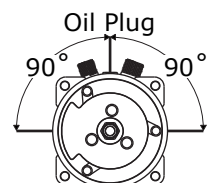
Compressor Warnings

NOTE: Failure to follow these procedures may void all warranties.

1. With compressor kit installed, and belt tightened, check angle of oil plug on compressor. As shown below, oil plug must not exceed 90° beyond vertical centerline.
2. Do not connect compressor clutch wire until system is being charged with refrigerant. Running compressor without refrigerant charge may result in compressor failure.

IMPORTANT NOTICE:

- Do not connect compressor clutch wire until system is being charged with refrigerant. Since an A/C system relies on refrigerant to circulate lubricant, running the compressor without refrigerant may destroy the compressor and void the warranty.
- Proper compressor orientation is important. Sanden compressors may be rotated from vertical (oil fill plug at top) up to 90° in either direction (See illustration).



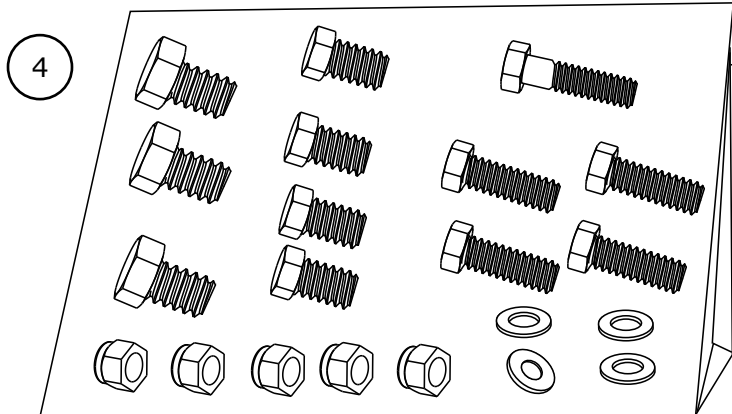
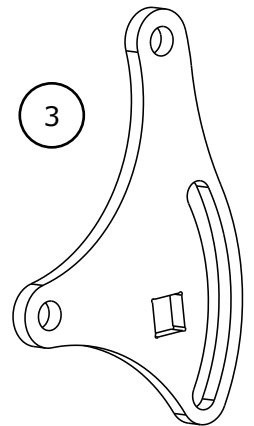
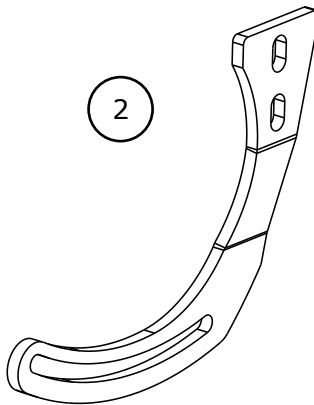
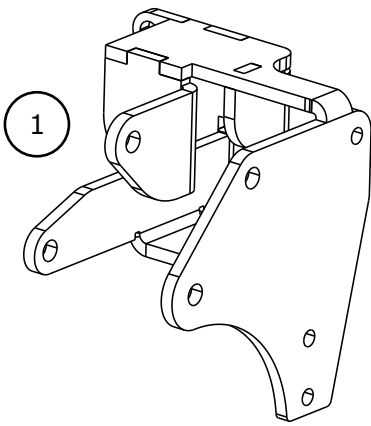


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Checked By: _____
 Packed By: _____
 Date: _____



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