



POWERGLIDE INSTRUCTION SHEETS

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ALTO PART # 019711KUP1

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Front Clutch PowerPack® /See Page 3

ALTO PART # 019755HP POWERPACK® CONTENTS:

- (9) 019740A (.061" / 1.55mm) Red Eagle® Friction Plates
- (9) 019701AK (.060" / 1.52mm) Kolene® Steel Plates

ALTO PART # 019756 POWERPACK® CONTENTS:

- (8) 019742-155 (.061" / 1.55mm) Red Eagle® Friction Plates w/External Teeth
- (7) 019731K155 (.060" / 1.52mm) Kolene® Steel Plates w/Internal Teeth
- (1) 019701AK (.060" / 1.52mm) Kolene® Steel Plates w/External Teeth

Front Clutch Anti-Drag® PowerPack® /See Page 5

ALTO PART # 019757 POWERPACK® CONTENTS:

- (8) 01970B155 (.061") Red Eagle® Friction Plates
- (8) 019711KUP1 (.060") Kolene® Steel Separator Plates
- (1) 019701AK (.060") Kolene® Steel Separator Plates

Reverse Clutch Anti-Drag® PowerPack® /See Page 6

ALTO PART # 019758 POWERPACK® CONTENTS:

- (6) 032744 Red Eagle® Frictions (.100"), (3) 019713KUP1 Kolene® Steel (.070")
- (2) 019703K Kolene® Steel Plate (.070"), (1) 019703K150 Kolene® Selective Steel (.060")
- (1) 019703K200 Kolene® Selective Steel (.078"), (1) 019703K228 Kolene® Selective Steel (.090")
- (1) 019703K254 Kolene® Selective Steel (.100"), (1) 019703K280 Kolene® Selective Steel (.110")

CASE SAVER KIT/See Page 7

ALTO PART # 019300UP6 KIT CONTENTS:

- (6) 019300 Clip Powerglide® Reverse Clutch Case Saver

POWERBAND /See Page 8

ALTO PART # 019961C Powerband Wide Carbon
ALTO PART # 019961 Powerband Wide Red Eagle®

OVERSIZE CASE BUSHING/See Page 8

ALTO PART # 019203X

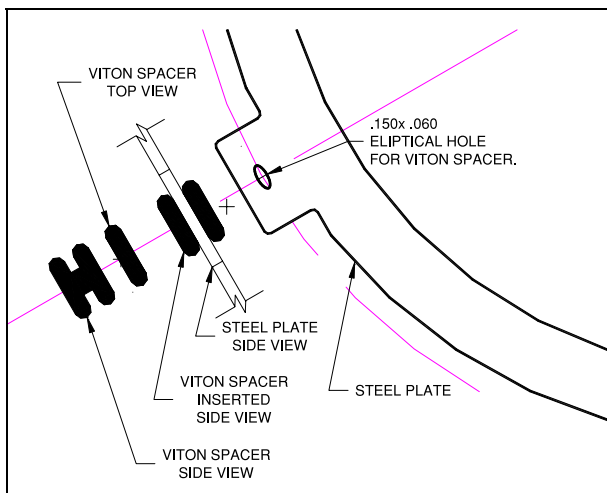


**Front Clutch Kolene® w/6 Separators
ALTO PART # 019711KUP1**

**Reverse Clutch Kolene® w/6 Separators
ALTO PART # 019713KUP1**

ALTO PART # 019711KUP1 & 019713KUP1 INSTALLATION

Stack-up is the same as OE, with alternating friction and steel plates. To insure correct clutch pack clearance when using the Anti-Drag® Steel Separators, first assemble the clutch packing using conventional steel plates of the same thickness as the Anti-Drag® Steel Plates. Apply the clutch several times and then measure clutch pack clearance. After making adjustments to the correct clutch pack clearance, assemble the clutch pack using the Anti-Drag® plates. Position the Anti-Drag® Steel Plates so the viton spacers give each friction plate clearance.





Front Clutch PowerPack® Hi-Performance, Racing, Drag Boats, Street Rods

ALTO PART # 019755HP POWERPACK® CONTENTS:

- (9) 019740A (.061" / 1.55mm) Red Eagle® Friction Plates
- (9) 019701AK (.060" / 1.52mm) Kolene® Steel Plates

ALTO PART # 019756 POWERPACK® CONTENTS:

- (8) 019742-155 (.061" / 1.55mm) Red Eagle® Friction Plates w/External Teeth
- (7) 019731K155 (.060" / 1.52mm) Kolene® Steel Plates w/Internal Teeth
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DURABILITY & PERFORMANCE BENEFITS

The enclosed product is designed to offer a significant increase in overall performance and durability when building an aluminum Powerglide for hi-performance and/or racing applications. The friction plates feature ALTO Red Eagle® hi-performance paper; when combined with the enclosed Kolene® coated steel plates, the high gear shift is MUCH firmer/shorter.

PLEASE READ THIS BEFORE BEGINNING INSTALLATION

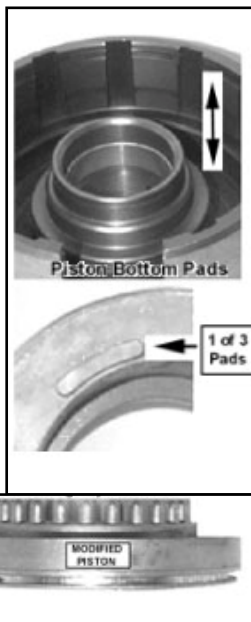
The Powerglide PowerPack® Kit is engineered with selectively sized (thinner) friction and steel plates. In order to install the full capacity of eight (8) friction plates, a V-8 clutch drum must be used. Additionally, the clutch drum piston must be machined (a simple procedure) and the waved cushion plate is not reinstalled. With this in mind, identify the parts you are working with as the following illustrations show.

INSTALLATION INSTRUCTIONS

Using a ruler or vernier caliper, measure from the bottom of the clutch drum to the ledge where the sun gear flange rests. Defined Further: The bottom of the clutch drum is the area under the bottom of the piston.

The sun gear flange ledge is the step approximately 3/16" below the snap ring groove. The measurement should be approximately 1-7/8 (1.875). This distance is much shorter if you have a six cylinder drum.

Tech Note: Look at the OEM narrow drum bushing as shown in the illustration. For added durability, a wider bushing can be installed. Use a Buick Dynaflow front pump babbitt bushing.





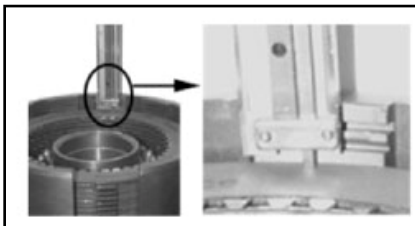
Front Clutch PowerPack® Hi-Performance, Racing, Drag Boats, Street Rods

Step 1: Measuring and Machining the Piston: There are three (3) slightly curved, bathtub shaped pads located on bottom side of the piston. Using a vernier caliper or micrometer, measure equal distances from the three (3) individual piston pads to the top of the piston depicted in the illustration between the two horizontal lines as area "A". The top of area "A" is where the first steel plate rests against. An OEM V-8 piston will measure approximately .860". Machine the piston from the top of area "A" until the height is .745" (+/- .005). Important Note: DO NOT machine the piston below .740". Doing so will cause the first steel plate proximity to be BELOW the steel plate lug area. ALWAYS check the proximity of the first steel plate to ensure that the plate lugs are in the lugs of the clutch drum. Failure to do so may result in a bind-up non-apply!

Step 2: Preparing the Sun Gear Flange: Since there will be a friction plate applying against the bottom surface area of the sun gear flange, it is highly recommended that you flat sand the sun gear flange friction plate contact area with heavy grit paper followed by fine paper to ensure flatness and the proper friction surface.

Step 3: Installing the Plates: Install the piston seals, piston, return springs, spring retainer, and retainer snap ring. You will NOT be installing a waved cushion plate. Instead, install one of the furnished FLAT steel plates followed by a friction plate and continuing the build-up of friction and steel plates in the usual manner. The top plate will be a friction. Note: Be sure to pre-soak the friction plates in clean ATF for at least fifteen minutes to avoid surface glazing and premature friction element distress!

Step 4: Measuring the Clutch Pack Clearance: Since the Powerglide high gear clutch pack is a dynamically applied clutch whereas the low band releases while the high clutch applies, properly timed shift overlap is very important to avoid a cut loose or spin-up. Refer to the illustrations to measure the overall clutch pack clearance. Using a vernier caliper or depth micrometer, rest the flat bar of the instrument on the sun gear



flange ledge which is located approximately 3/16" below the top snap ring groove. While the measuring instrument is resting on the ledge you will extend the instrument's rod until it is lightly pressing down on the top friction plate. Take note of the measurement which is the total clutch pack clearance. It should be .080 +/- .010. The recommended clutch pack minimum/maximum clearance is .060-.100.

Technical Note: Deleting the waved cushion plate will obviously make the high gear shift MUCH shorter and firmer. However, this can also cause a side effect of rough downshifts and/or spin-up on the downshift. If you elect to reinstall the waved cushion plate, you must reduce the total friction plate capacity and install a combination of kits thin steel plates and stock size (.070) steel plates not furnished in this kit. Each builder has his own methods for performance hydraulic calibration. Choose between the waved or no waved cushion to your specific applications.





Front Clutch Anti-Drag® PowerPack® Hi-Performance, Racing, Drag Boats, Street Rods

ALTO PART # 019757 POWERPACK® CONTENTS:

- (8) 01970B155 (.061") Red Eagle® Friction Plates
- (8) 019711KUP1 (.060") Kolene® Steel Separator Plates
- (1) 019701AK (.060") Kolene® Steel Separator Plates

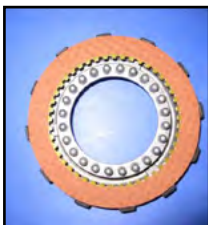
INSTALLATION INSTRUCTIONS



Install 6 inserts into steel plate lugs



Stack clutch pack on bench; start with a steel plate, make sure the rubber inserts are not stuck under the friction plates and that you do not place lugs that contain rubber inserts on top of each other.



Recommended: Always soak friction clutches in ATF for 15 to 20 minutes. Machine apply piston to .745" to allow for extra capacity

Use aftermarket turbine hub, this is required to engage all of the friction teeth

Install the stack-up into the front clutch drum, starting with a steel plate and ending with a friction plate

Install 019701AK steel plate (top)

Clutch pack clearance is .060" +/- .010"

Install sun gear plate and snap ring





Reverse Clutch Anti-Drag® PowerPack® Hi-Performance, Racing, Drag Boats, Street Rods

ALTO PART # 019758 POWERPACK® CONTENTS:

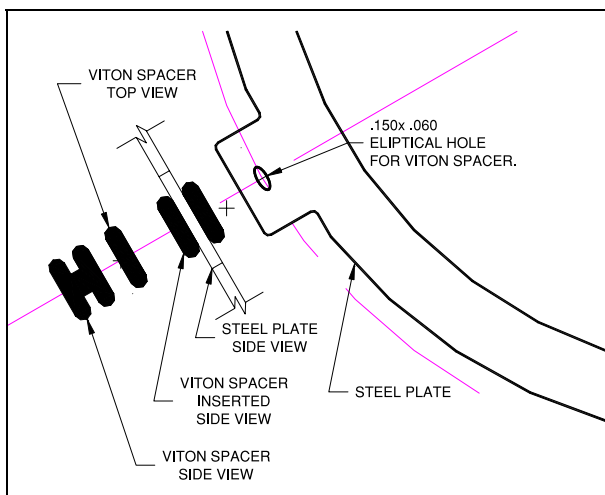
- (6) 032744 Red Eagle® Frictions (.100")
- (3) 019713KUP1 Kolene® Steel (.070")
- (2) 019703K Kolene® Steel Plate (.070")
- (1) 019703K150 Kolene® Selective Steel (.060")
- (1) 019703K200 Kolene® Selective Steel (.078")
- (1) 019703K228 Kolene® Selective Steel (.090")
- (1) 019703K254 Kolene® Selective Steel (.100")
- (1) 019703K280 Kolene® Selective Steel (.110")

INSTALLATION INSTRUCTIONS

NOTE: For best results, assemble the reverse clutch pack using OE thickness steel plates and the selective steel plate provided in the kit to get the desired clutch pack clearance.

Install an OE type steel plate against the apply piston followed by a friction disc, an Anti-Drag® steel plate and then a friction disc. Install an OE type steel plate, followed by another friction disc, an Anti-Drag® steel plate and friction disc. Now you are ready to install a Selective Steel plate then a friction disc, an Anti-Drag® steel plate and then a friction disc. Finally, install the pressure plate followed by the snap ring. When finished it is necessary to force the clutch pack down in order to install the snap ring.

This is a normal practice.





CASE SAVER KIT

ALTO PART # 019300UP6 KIT CONTENTS:
(6) 019300 Clip Powerglide® Reverse Clutch Case Saver

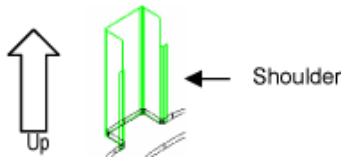
INSTALLATION INSTRUCTIONS

NOTE: Case Saver Clips can only be used with Alto Steel Plates.

Alto case saver clips are designed to fit into all six (6) reverse steel pockets that are located in the bottom of the case. The top Pressure Plate and Snap Ring will locate the clips and prevent them from riding up and out of the pockets. If any other steel plates are used, the lugs of the steel plates will drag in the case saver clips.

Modifications for the OE or Dedenbear case:

1. Remove all ridges or burrs caused by the previous steel plates.
2. Install the clips into the pockets. If the bottom portion of a clip will not seat fully down into the pocket, it may be necessary to use a rotary file and remove some of the case material. The clip shoulder must fit against the case to allow proper up and down movement of the reverse steels.
3. Install the six (6) case saver clips, then stack the reverse clutch pack in the normal manner.
4. Install the top pressure plate and snap ring. Check clutch pack clearance.



Modifications for the JW case: The JW case requires the bottom of the top pressure plate to be chamfered. This will make the installation easier.

1. Remove any ridges or burrs from the case.
2. Place all six (6) clips into the case. Modify case, if necessary, to allow the shoulders of the clips to seat against the case.
3. Install at least one (1) steel plate to make sure the plate has free movement up and down.
4. Remove steel plate and put a small amount of JB Weld or similar adhesive to the back of each clip and install the clips into the JW case. Stack up the reverse clutch in the normal manner.
5. Install the top pressure plate (it may be necessary to tap the pressure plate into position).
6. Check clutch pack clearance and insure that the clutch pack moves up and down freely.



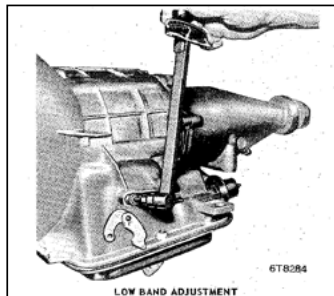
WIDE POWERBAND CARBON ALTO PART # 019961C

WIDE POWERBAND RED EAGLE® ALTO PART # 019961

Low band adjustment is not ordinarily required in service (adjustment is made when transmission is overhauled)

Note: Input and output shafts must be rotated simultaneously to properly center low band on clutch drum when adjustment is being made. Loosen low servo adjustment screw lock nut (located on left side of case) tighten adjustment screw to 40 inch pounds.

Back off adjusting screw **EXACTLY 4 turns** and tighten locknut.



OVERSIZE CASE BUSHING ALTO PART# 019203X

The bushing on the left is the 019203X. It is .250" (1/4 inch) taller giving more support when installed into the PG case.

