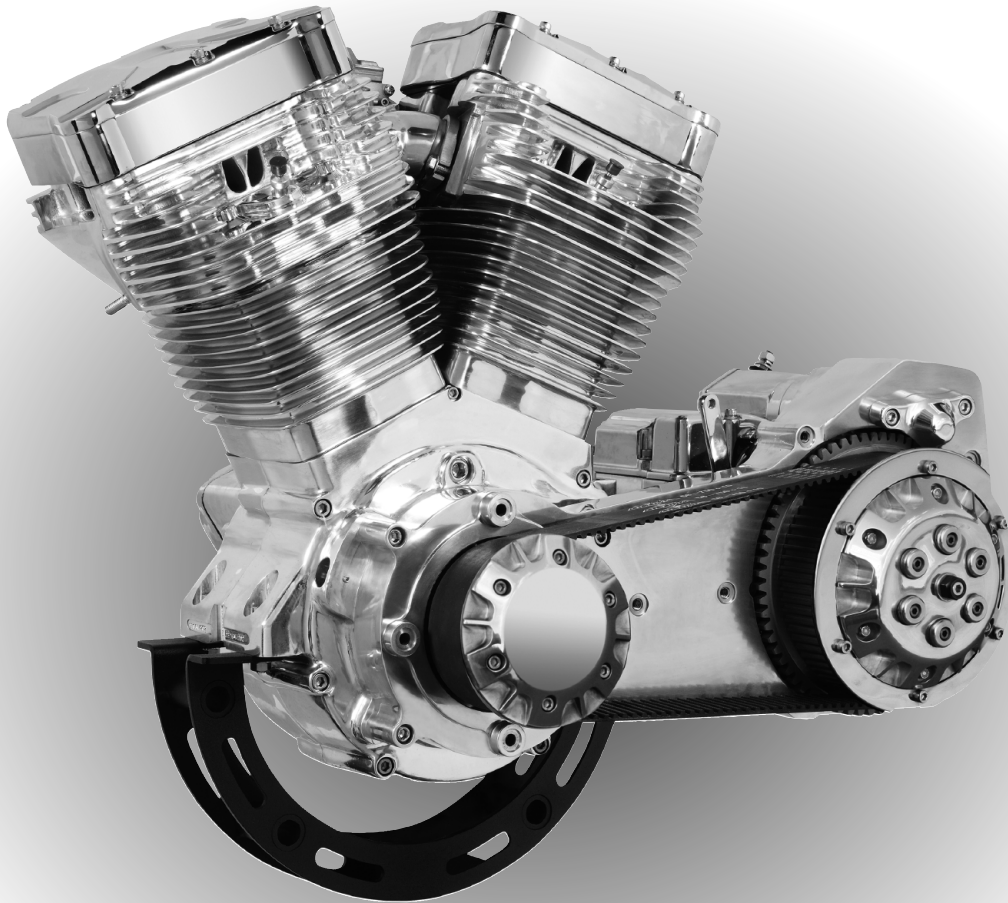




ASSEMBLY DIAGRAM AND ASSEMBLY REFERENCE ULTIMA OLD SCHOOL 2" EVO & TC BELT DRIVE UNITS



BELT DRIVE ASSEMBLIES

Part# 58-850	2" Old School Belt Drive Assembly - Polished
Part# 58-851	2" Old School Belt Drive Assembly - Machine finish

REV 9-08-14

ASSEMBLY DIAGRAM AND ASSEMBLY REFERENCE

ULTIMA OLD SCHOOL 2" BELT DRIVE UNITS

BELT DRIVE PRODUCTS

WARRANTY PROVISIONS

Ultima's component parts used in our Belt Drives are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of Twelve (12) months from the date of purchase through Midwest Motorcycle Supply.

Merchandise that fails to conform to these conditions will be repaired by Ultima if the parts are returned to Midwest Motorcycle Supply by the purchaser within the 12-month warranty period or within 10 days thereafter.

Some problems can be rectified by a telephone call and need no further course of action. A part that is suspected of being defective must not be replaced by a Dealer without prior authorization from Midwest Motorcycle Supply. If it is deemed necessary for Ultima to make an evaluation to determine whether the part was defective, it must be packaged properly to prevent further damage and be returned prepaid to Midwest Motorcycle Supply with a copy of the original invoice of purchase and detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If, after an evaluation has been made by Ultima and the part was found to be defective, repair or replacement will be granted at Ultima's discretion.

ADDITIONAL WARRANTY PROVISIONS:

1. Ultima shall have no obligation in the event an Ultima part is modified by any other person or organization.
2. Ultima shall have no obligation in the event an Ultima part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the Ultima part.
3. Ultima shall not be liable for any consequential or incidental damage resulting from the failure of an Ultima part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between Ultima and a customer.
4. These Diagrams are provided for a reference only and in no way imply that this part is suitable for the applications it is being installed to. The Part #'s these Diagram reference were designed to fit OEM Softail® Style Motorcycles made from 1990-1999 with exception to the starter drive assembly which uses the 1989-1993 diameter jackshaft bolt (1/4-20). These Drives will also fit most aftermarket Softail and Rigid Frames designed to use Softail style components made within these years.

PROFESSIONAL INSTALLATION REQUIREMENTS:

Ultima Belt Drives should be installed by trained professional mechanics into motorcycle in which they were intended for use. Failure to do so may result in injury and even death. It is the customer's responsibility to insure their mechanic has proper training.

PREPARATION FOR ASSEMBLY

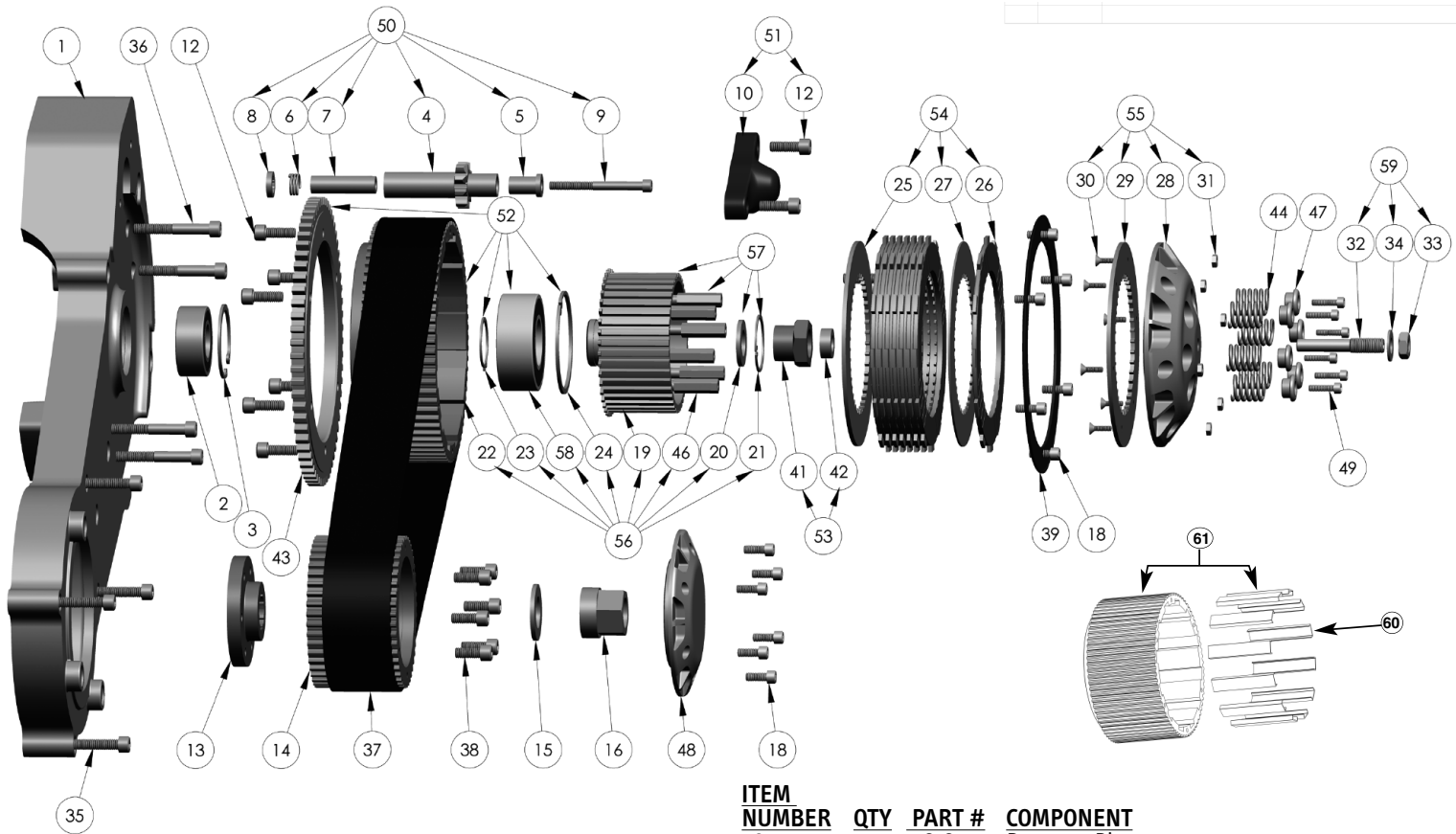
Before installing the Ultima Belt Drive System you must remove your entire existing primary drive. This also includes the pressed on transmission mainshaft race used with chain drive inner primary bearings.

As stated earlier the Ultima Belt Drive System requires the use of a 1989-1993 type starter drive shaft which utilizes the larger 1/4-20 fastener. We also suggest using any of our heavy duty Ultima Thunder Fire Starters part # 70-220 thru 70-229 which incorporate both 89/93 and 94/Later style drive shaft bolt arrangements. These starters are available in 1.4, 1.75, 2.0 and 2.4 Kw configurations.

Ultima Belt Drives utilize a slightly longer center distance between the pulley's and will require that you loosen the transmission mounting bolts to allow the transmission move back approx .040".

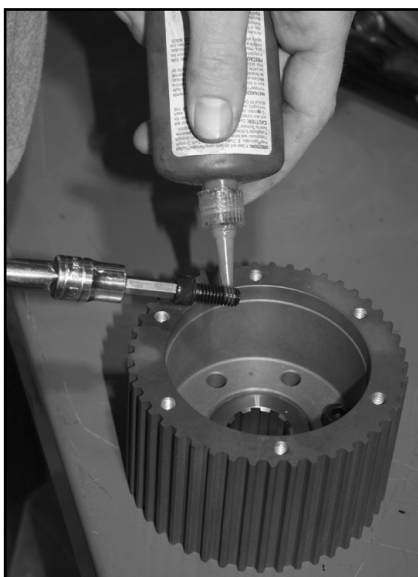
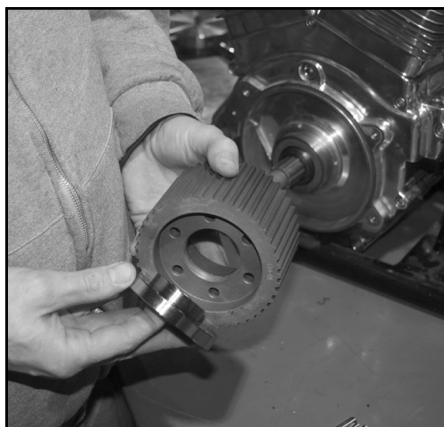
At this time we suggest inspection of your Charging System. Ultima Belt Drives are designed to work with most 32 amp Charging System on the market today. Later model 38, 40 and 44 amp systems may interfere with the Motor Plate.

While you are inspecting the alternator we highly recommend that you install a new Crankshaft Seal on the engine replacing the existing seal with a High Quality double lip seal and installing the seal with the steel face out. Belt Drive Units require a dry environment free from Oil and by flipping the oil seal you ensure any crankcase pressure and oil will stay in your engine. This is also a great time to inspect the transmission sprocket and seal for wear and to ensure the sprocket is tight.



ITEM NUMBER	QTY	PART #	COMPONENT
1	1	58-940	Motor Plate, Cast, Softails® 90'-06'
2	1	58-707	Bearing, Ball, Double Row Angular Contact, INA 3200 Series
3	1	58-708	N5000-206 Snap Ring
4	1	58-710	Gear, Starter Drive, One Piece
5	1	58-711	Starter Bushing
6	1	58-712	Starter Spring
7	1	58-713	Starter Spacer
8	1	58-714	Spring Stop
9	1	58-718	Starter Bolt-1/4-20 x 2.75
	1	58-719	Starter Bolt-10-32 x 2.75
10	1	—	Cover, Starter Gear
12	2	58-798	SHCS 0.3125-18 x 0.875 x 0.875-S
13	1	58-605	Collar, Sprocket Shaft, no offset
		*58-606	1/4" Offset Collar, Sprocket Shaft
		*58-607	1/2" Offset Collar, Sprocket Shaft
		*58-608	3/4" Offset Collar, Sprocket Shaft
		*58-609	1" Offset Collar, Sprocket Shaft
		*58-610	1-1/4" Offset Collar, Sprocket Shaft
		*58-611	1-1/2" Offset Collar, Sprocket Shaft
		*58-612	1-3/4" Offset Collar, Sprocket Shaft
		*58-613	2" Offset Collar, Sprocket Shaft
14	1	58-824	Pulley, Motor 45T 2" Drive
15	1	58-726	Washer, 1.655 x 0.94 x 0.125
16	1	58-723	HTNUT 0.8750-14-D-S
		*58-724	Nut, Motor Pulley long (for 1-1/2-1-3/4" offset collar)
18	12	58-736	SHCS 0.25-20 x 0.625 x 0.625-S
19	1	58-828	Clutch Hub
20	1	58-756	Washer, Clutch Hub
21	1	58-757	N5000-137 Snap Ring
22	1	58-826	Pulley, Transmission 71T
23	1	58-739	Retaining Ring, Clutch Assy Inner
24	1	58-738	Retaining Ring, Clutch Assy Outer
25	1	96-83	Clutch Drive Plate, Lower 0.119
26	8	—	Clutch Plate, Friction
27	7	96-34	Clutch Plate, Steel 0.049
28	1	58-832	Pressure Plate
29	1	58-772	Clutch Drive Plate, Upper
30	6	58-774	SCHCSREW 0.164-32 x 0.625 x 0.625-HX-S
31	6	58-773	MSHXNUT 0.164-32-S-N
32	1	58-780	SSFLATSKT 0.4375-20 x 1-HX-S
33	1	58-781	HJNUT 0.4375-20-D-S
34	1	58-782	FW 0.4375
35	4	58-797	SHCS 0.3125-18x1.5x1.5-S
36	4	58-799	SHCS 0.3125-18x2.25x1.125-S
37	1	58-752	Belt, GoodYear 2" 8mm 140t minus 3
	1	58-901	Belt, GoodYear 2" (use w/58-940 motor plate)
38	6	58-796	SHCS 0.3125-18 x 0.75 x 0.75-S
39	1	58-761	Belt Guide, Ultima 2" Trans Pulley
41	1	58-741	HTNUT 0.75-16-D-S
42	1	95-778	Clutch Rod Seal
43	1	58-735	Gear, Starter Ring
44	6	96-251	Spring, Clutch - Medium (68lb @ 1")
	6	96-249	Spring, Clutch - Heavy Duty (82lb @ 1")
	6	96-250	Spring, Clutch - Extra Heavy Duty (98lb @ 1")
46	6	58-833	Clutch Spring Stud
47	6	58-852	Clutch Spring Guide
48	1	58-867	Motor Pulley Cap
49	6	58-835	Socket head cap screw
50	1	58-633	Gear Assembly, Starter Drive
51	1	58-720	Cover Assembly, Starter Gear
12, 52, 56	1	58-834	Complete Trans Pulley Assembly
52, 12	1	58-825	Transmission Pulley Assembly 71T
		58-923	Transmission Pulley, bare, w/stainless inserts 71T
		58-925	Stainless inserts for 2" pulley. Pkg.
53	1	58-622	Clutch Retaining Nut Assy
54	1	58-769	Complete Replacement Clutch Assy
55	1	58-829	Pressure Plate Assembly
57	1	58-827	Clutch Hub Assembly
58	1	58-737	Bearing, Ball, Double Row Angular Contact, INA 3200 Series
59	1	58-779	Clutch Adjuster Assy
60	1	58-925	Pulley Inserts only, 2"
61	1	58-923	Outer Pulley 71T w/inserts, 2"

I. SELECTING THE PROPER OFFSET PULLEY INSERT



Ultima Drives use 6 bolts to fasten the Motor Pulley to the Pulley Insert. Install these bolts using Red Loctite and Tighten to 18-22 ft lb torque. All Ultima Drives include the Stock offset Spacer. The Following Spacers are available separately for Wide Tire Applications.

MWM # **58-606** .250" Offset

MWM # **58-608** .750" Offset

MWM # **58-611** 1.5" Offset

MWM # **58-607** .500" Offset

MWM # **58-609** 1.00" Offset

MWM # **58-612** 1.75" Offset

MWM # **58-610** 1.25" Offset

MWM # **58-613** 2.00" Offset

When use of a 1-1/2" to 2" offset is needed, you must purchase Midwest Part#**58-724** motor pulley nut.

II. INSTALLING THE MOTOR PLATE

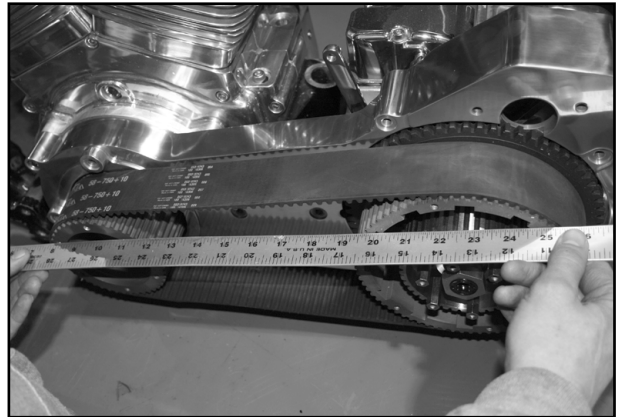
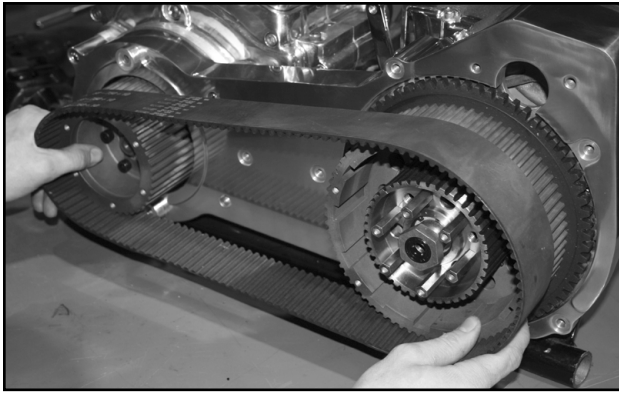


Install the Motor Plate without the rubber o-ring for the inner primary to engine. Remember the center distance will be different with the Ultima Belt Drive so it will require you to move the transmission. Align the motor plate to the engine and transmission then install the mounting bolts for the engine and trans snug only. You might need a dead blow or plastic hammer to seat the motor plate over the transmissions dowel pin. With the motor plate mounting bolts lightly snug to the engine and tightened to the transmission look to see that the trans is sitting square on the frame. Shimming is generally not required but needs to be inspected for spaces no larger than .030". If all looks good begin by pulling the transmission mounting nuts tight. Next run the Motor Plate to the engine bolts tight. Next check the motor plate to trans mounting bolts for tight. If all aligns well your ready to Start removing the Motor Plate to engine and trans bolts to apply RED Loctite one at a time. Torque all to 18-22ft lb.

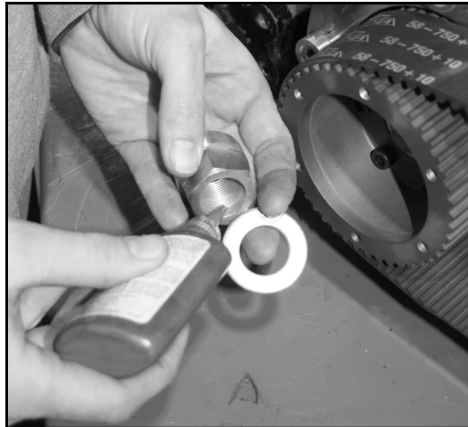
III. INSTALLING PULLEYS AND BELT



1. Install the clutch Basket Assembly onto the transmission mainshaft. Apply RED Loctite to the mainshaft nut and torque to 55-65 ft lb.

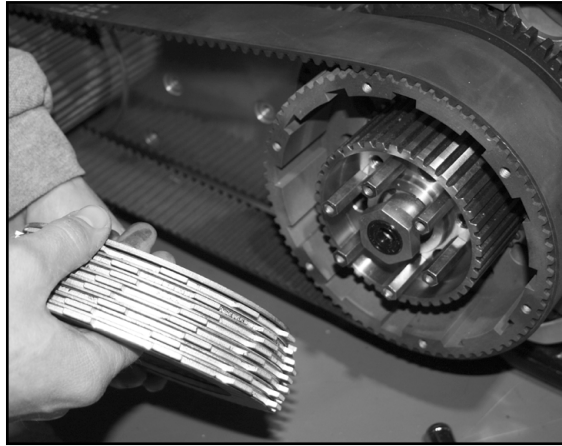


2. Install the Stator Rotor Washer and any Shims that were present. Ultima Belt Drives are not as sensitive as chain drives to pulley alignment as the clutch basket acts as a guide but proper alignment should be checked. To insure a completely dry running primary many people use a bead of clear RTV Silicone at each spline to insure no oil will travel between the shaft and spline. Install the belt and front pulley at the same time. It can be tricky to align the splines with some tension on the belt. Once you get the spline started you can tap the pulley on lightly with a dead blow or plastic hammer.

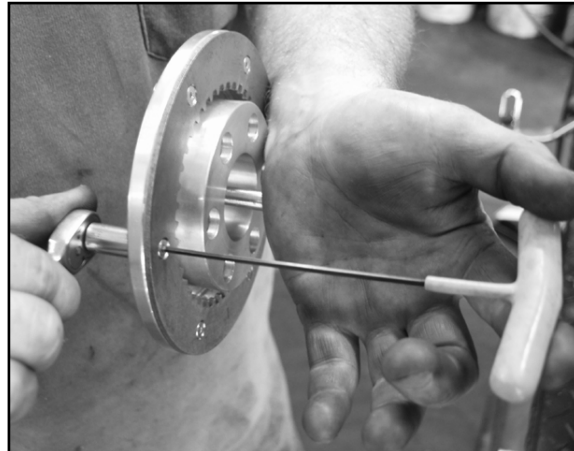


3. Install the motor pulley nut using RED Loctite and Torque to Mfg recommended Specification.

IV. INSTALLING THE CLUTCH COMPONENTS



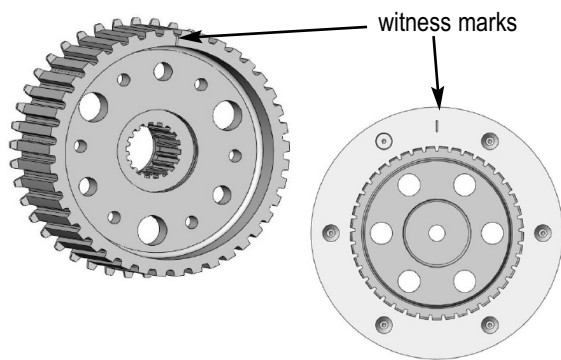
1. Ultima Belt Drive utilize 8 of the old style 900cc sportster steel drive plates and 8 special size fiber plates designed to provide a very adjustable Clutch Package. When Installing the Clutch Pack Install the Thick .119" Steel Plate First then Alternate Fiber/Steel. The Last Plate you install should be Fiber.



2. Check the pressure plate screws to ensure they are all tight and the heads of the bolts are sitting below the plate surface.



3. Install the clutch adjusting screw using a small amount of high temp grease or anti-sieze on the thread and especially on the Clutch Pushrod end. Don't get too much grease out there –Remember this is a DRY clutch.



4. Align the witness marks on the pressure plate and inner clutch hub as shown when installing pressure plate. This will ensure clutch hub studs will be centered in the appropriate pressure plate holes.

NOTE: CENTER PUSHROD IS REQUIRED

The center clutch push rods (located in the transmission main shaft) may need to be changed depending on setup. Below is a list of available sizes.

<u>PART#</u>	<u>LENGTH</u>	<u>DESCRIPTION</u>
96-442	11.375"	1987-1989 5 speed
96-538	10.8125"	1990+ 5 speed
96-469	11.875"	1985+ 5 & 6 speed



5. After installing pressure plate, install clutch springs w/supplied spring collars and narrow-headed 12-24 bolts. Install using Blue Locktite. Spring collars should bottom on clutch hub studs. Torque to 90 in-lbs. In higher horsepower applications, heavier springs are available.
 Midwest Part#**96-251** (68lbs @ 1")
 Midwest Part#**96-249** (82lbs @ 1")
 Midwest Part#**96-250** (98lbs @ 1")

ADJUSTING THE CLUTCH

At this time you will adjust your clutch. Thread in the adjuster until it makes contact w/the clutch pushrod. Once it is lightly seated, back adjuster off 1/4 turn. Using an 11/16" wrench, tighten the adjuster locknut. Clutch cable adjustment can now be done leaving some end play at the lever.

V. INSTALLING THE STARTER GEAR



Starter Gear Assembly



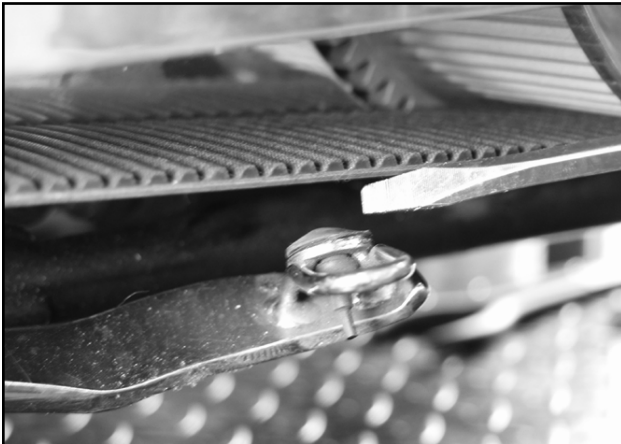
Install your starter motor to the Motor Plate then install the starter drive gear assembly in the order shown using Blue Loctite. The Starter Drive Gear should be a Minimum of .150" from the clutch basket starter ring gear once installed. **APPLY SOME HIGH TEMP GREASE OR ANTI-SIEZE TO THE STARTER END CAP BUSHING.** Apply upward pressure to end cap when torquing to 18-22ft lbs, always use Blue Locktite on end cap bolts. Reapply grease to bushing every 6 months - **DO NOT RUN DRY!**

VI. INSTALLING PULLEY CAP AND CLUTCH TRIM RING



Install motor pulley cap and clutch basket trim ring at this time using the supplied 1/4-20 bolts. Torque to 120-140 in-lbs w/Blue Loctite.

VII. KICKSTAND CONSIDERATIONS



Check your kickstand clearance to the belt pushing down on the belt then adding at least 1/2". Use MWM # 5-190 Adjustable Kickstand Leg Stop if needed. This is an important safety check and should be performed before initial startup.