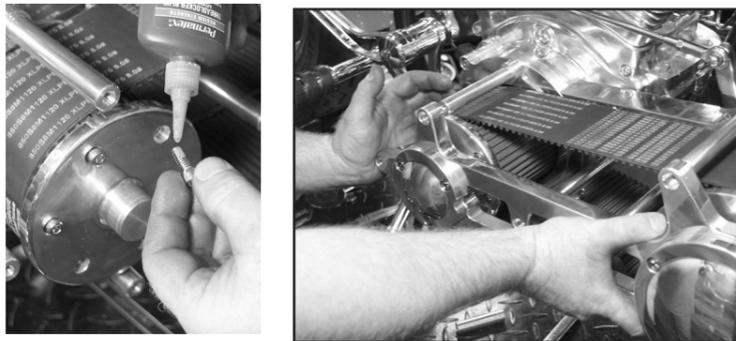


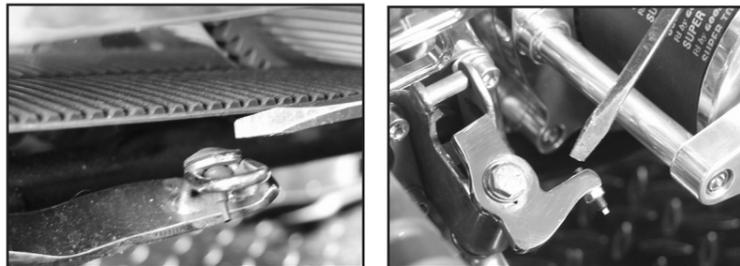
VII. INSTALLING THE OUTBOARD BEARING SUPPORT



1. Install Motor Pulley and Trans Pulley Caps using Blue Loctite. Snug bolts only. Install the preassembled outer support plate assembly starting with the clutch basket side. With a small hit of the hand pushing towards the clutch basket side the outer support plate should snap in. Snug the outer support plate with the 2 center bolts only. Using the Starter Motor With the plugs out of the engine rotate the belt drive a few times to insure the pulley caps get centered. Get 2 or 3 bolts tight on the caps—120-140 in lb. Remove the outer support plate and torque all pulley cap bolts.



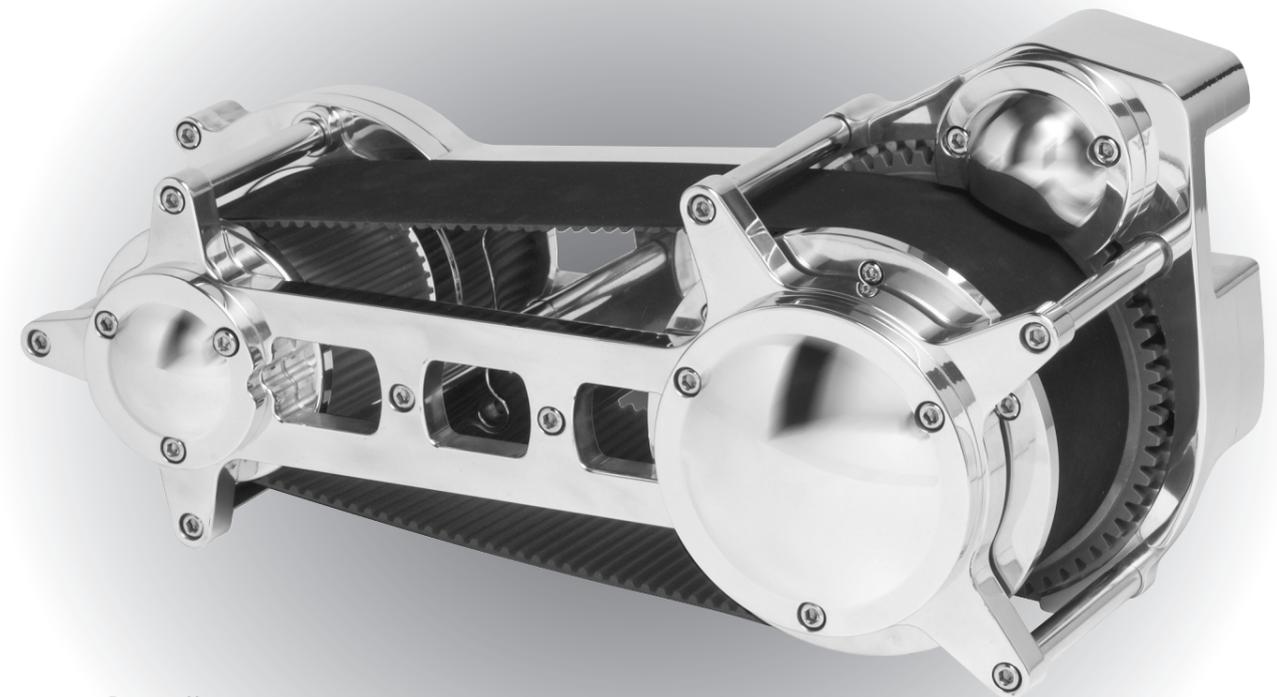
2. After all Pulley Caps are tight reinstall the outer support plate using Blue Loctite. Torque Bolt to 15-18ft lb.



3. 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.



ASSEMBLY DIAGRAM AND ASSEMBLY REFERENCE ULTIMA 3.35" SOFTAIL® BELT DRIVES 1990-2006



<u>Part #</u>	
58-700	DRAG STYLE, CAST, POLISHED
58-730	STREET STYLE, CAST, POLISHED
58-800	DRAG STYLE, BILLET, POLISHED
58-801	DRAG STYLE, BILLET, MACHINED

REV 6-4-14

ASSEMBLY DIAGRAM AND ASSEMBLY REFERENCE ULTIMA 8MM 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.

I. 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.

For 1999 & earlier models, 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".

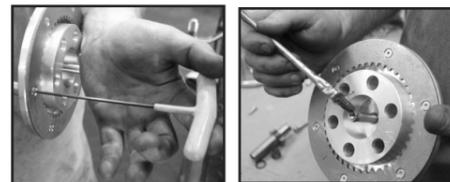
At this time we suggest inspection of your Charging System. Ultima Belt Drives are designed to work with most 32 amp Charging System on the market today. Later model 38, 40 and 44 amp systems may interfere with the Motor Plate.

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.

VI. INSTALLING THE CLUTCH



1. Ultima Belt Drive utilize the old style 900cc sportster steel drive plates and 9 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. Install the clutch adjusting screw using a small amount of high temp grease on the thread and especially on the Clutch Pushrod end. Don't get too much grease out there -Remember this is a DRY clutch.

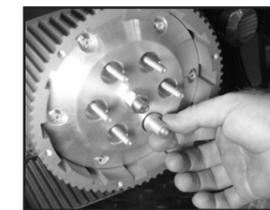
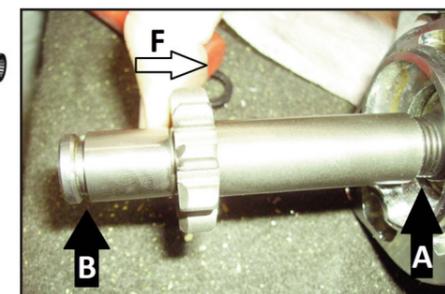


3. Align the witness marks on the pressure plate and inner clutch hub as shown when assembling.

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.

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



4. Check the Inner Stud Alignment using the clutch spring collar flipped over with the flange side in. The Collar should pass through the pressure plate freely a minimum of 1/4". Straightening is generally not required but if needed straighten the stud by using a small brass drift.



5. Install the clutch springs and clutch spring guides with the flanges out. Install the Clutch Spring nuts until you measure .350"+/- .010 from the face of the pressure plate to the face of the spring guide as shown. This sets the Spring at approx. 1.250 installed height. For higher power applications go in to .100" measured max for 1.000 installed height. Ultima Belt Drives come with a standard pressure spring for most applications under 100 hp.

MWM #58-776 Clutch Spring - Medium, Gold (68lb @ 1")
Pressure 42lb @ 1.250"
68lb @ 1.000"

The clutches grip is adjusted by the spring tension and your clutch lever pressure goes up with spring pressure. For Higher Horsepower Applications we offer:

MWM # 96-252 Clutch Spring - Heavy Duty, Black (82lb @ 1")
96-253 Clutch Spring - Extra Heavy Duty, Red (105lb @ 1")

58-718 Starter Bolt .25-20x2.75 (t) (90'-93' Starter OEM / Thunderfire), included.

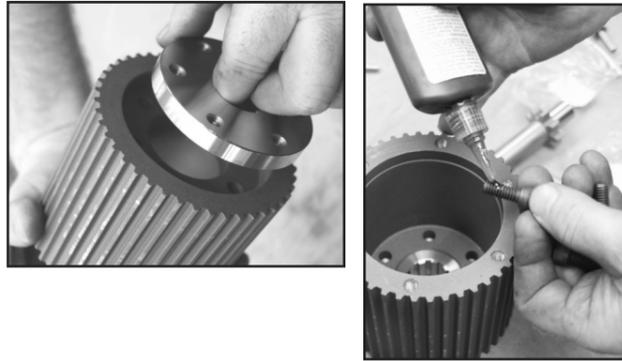
58-719 Starter Bolt .10-32x2.75 (t) (94' & later Starter OEM) Not included, sold separately.

6. 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 TO THE STARTER END CAP BUSHING** then install the cap using Blue Loctite. Torque to 18-22ft lb. Reapply grease to bushing every 6 months - **DO NOT RUN DRY!**

Make sure the jackshaft can be pushed in 0.125". If you cannot then the spring may be coil-bound. The jackshaft needs this movement in order to locate and mesh with the ring gear. Spacers may need to be adjusted accordingly. See figure: Force in "F" direction should give you 1/8" space in location "B". If not the spring "A" may be coil-bound and will require adjustment.

WARNING: Before working with the jackshaft make sure the battery is disconnected. The starter can engage causing serious injury.

III. 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 # 58-605 0" Offset	MWM # 58-610 1.25" Offset
MWM # 58-606 .250" Offset	MWM # 58-611 1.5" Offset
MWM # 58-607 .500" Offset	MWM # 58-612 1.75" Offset
MWM # 58-608 .750" Offset	MWM # 58-613 2.00" Offset
MWM # 58-609 1.00" Offset	

V. INSTALLING PULLEYS AND BELT

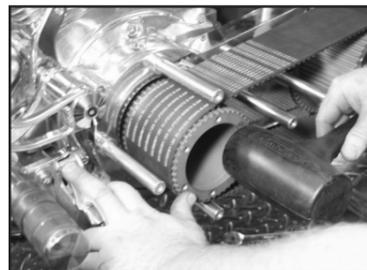
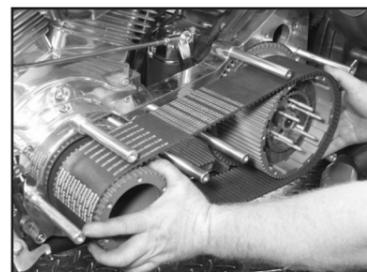


1. Install the clutch Basket Assembly onto the transmission mainshaft. Apply RED Loctite to the mainshaft nut and torque to 55-65 ft lb.



3. Install the motor pulley nut using RED Loctite and Torque to Mfg recommended Specification.
Motor pulley nut, part# 58-724, is required when an 1-1/2" or larger motor pulley offset is used.

2. If necessary, 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.



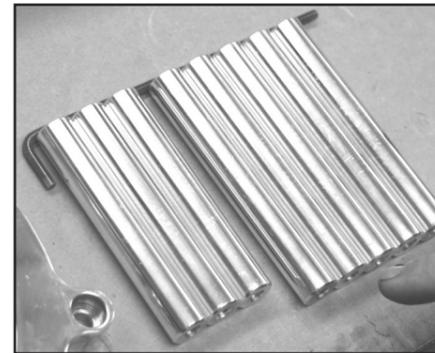
IV. INSTALLING THE MOTOR PLATE



Install the Motor Plate and Motor Sub-Plate without the rubber o-ring for the inner primary to engine. Remember the center distance on 99' & earlier models will be different than the Ultima Belt Drive backing plate 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. On 99' & earlier models, 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 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.

II. PREASSEMBLY OF BELT DRIVE COMPONENTS

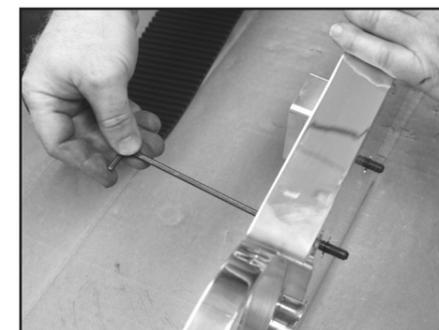
When Assembling Street Style Belt Drive Assemblies no Preassembly is required on the Motor Plate. Drag Style Belt Drives Require the outer Cover Spacers to be installed prior to assembling onto the motorcycle.



1. Locate the 2 different length Outer Cover Spacers #56



2. Install the 3 shorter outer cover spacers #56B into the Motor Sub-Plate # 5 using Hardware # 66 Black Oxide finish with Red Loctite. Torque to 18-22 ft lb



3. Using Red Loctite Install the remaining 5 long outer cover spacers with set screws into the Motor Plate. Motor Plates are drilled through so you can access the allen head from the inside. Put the Hex side of the set screw into the motor plate. Use Red Loctite on Outer Cover Spacers

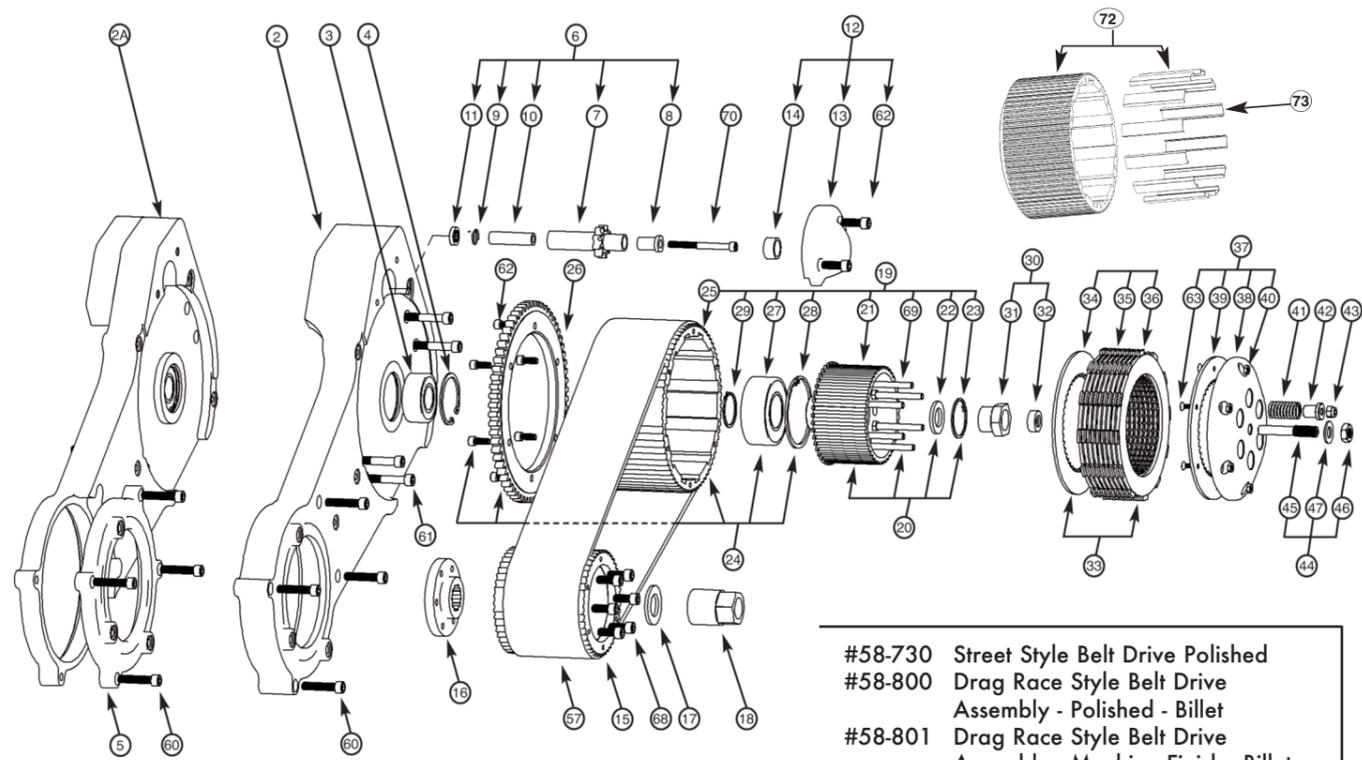


5. The Motor Plate and Motor Sub-Plate Ready for assembly

4. A good way to tighten the outer cover spacers is to use on of your 5/16-18 bolts and a Jam Nut. This will allow you to get some torque on the spacers.



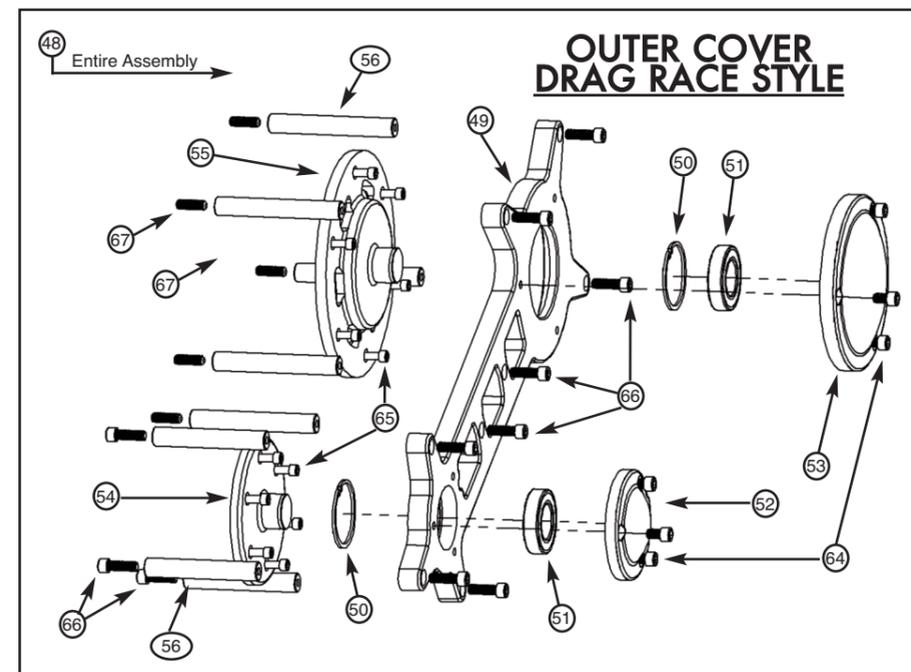
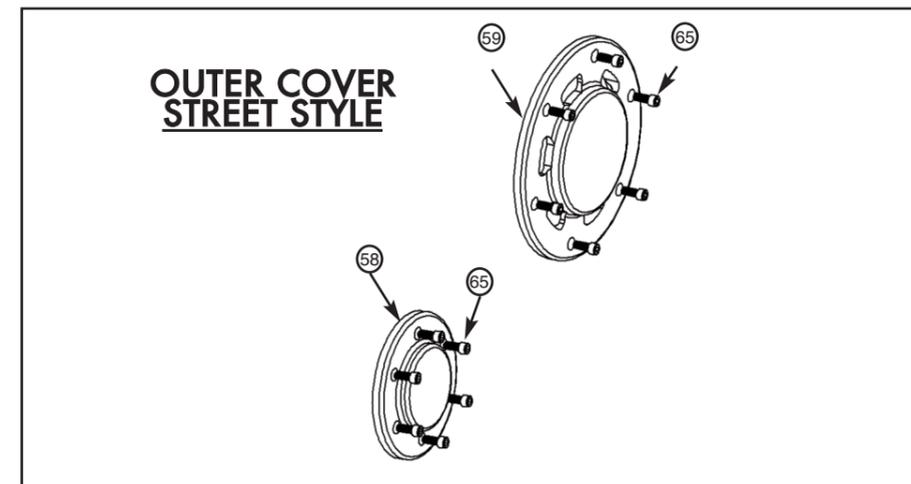
6. Install Outer Cover Caps onto the Outer Cover using Blue Loctite. Torque to 18-22 ft lb. Note the bolt clearance notch location on the motor pulley cap to the outer plate.



#58-730 Street Style Belt Drive Polished
 #58-800 Drag Race Style Belt Drive Assembly - Polished - Billet
 #58-801 Drag Race Style Belt Drive Assembly - Machine Finish - Billet

NOTE: Motor plates 58-940 & 58-935 have the part number stamped on the motor plate itself. Located on area behind the clutch basket. Also see fitment updates online at www.ultimaproducts.com.

- | | |
|---|---|
| 1. Complete Assembly | 20. 58-729 Clutch Hub Assembly |
| 2. 58-940 Motor Plate Assy. - Cast, includes #3 & #4
Fits Softails® 1990-2006 | 21. 58-755 Clutch Hub |
| 2A. 58-935 Motor Plate Assy. - Billet, includes #3 & #4
Fits Softails® 1990-2006 | 22. 58-756 Washer, Clutch Hub |
| 3. 58-707 Bearing, Ball, Double Row Angular Contact | 23. 58-757 Snap Ring |
| 4. 58-708 Snap Ring | 24. 58-733 Trans Pulley Assy 71T w/BRG
(Includes 62, 26, 27, 28) |
| 5. — Motor Sub Plate (Billet Motor Plate Only) | 25. 58-922 Transmission Pulley, bare, w/stainless
inserts 71T |
| 6. 58-633 Gear Assembly, Starter drive | 58-924 Stainless inserts for 2" pulley. Pkg. |
| 7. 58-710 Gear, Start Drive, One piece | 26. 58-735 Gear, Starter Ring |
| 8. 58-711 Starter Gear Bushing | 27. 58-737 Bearing, Ball, Double Row Angular Contact |
| 9. 58-712 Starter Spring | 28. 58-738 Retaining Ring, Clutch Assy Outer |
| 10. 58-713 Starter Gear Spacer | 29. 58-739 Retaining Ring, Clutch Assy inner |
| 11. 58-714 Spring Stop | 30. 58-622 Clutch Retaining Nut Assy |
| 12. 58-715 Cover Assembly, Starter Gear | 31. 58-741 Clutch Retaining Nut |
| 13. — Cover, Starter Gear | 32. 95-778 Clutch Rod Seal |
| 14. 58-717 Bushing, Starter Gear | 33. 58-760 Complete Replacement Clutch Assy.,
9 friction, 9 steel plates |
| 15. 58-725 Pulley, Motor 45T | 34. 96-83 Clutch Drive Plate, Inner .119 Thick |
| 16. 58-605 0" Offset Collar, Sprocket Shaft | 35. — Clutch Plate, Friction |
| IMPORT USA MADE | 36. 96-34 Clutch Plate, Steel .049 Thick |
| *58-606 — 1/4" Offset Collar, Sprocket Shaft | 37. 58-770 Pressure Plate Assembly |
| *58-607 — 1/2" Offset Collar, Sprocket Shaft | 38. 58-771 Pressure Plate |
| *58-608 *58-102 3/4" Offset Collar, Sprocket Shaft | 39. 58-772 Clutch Drive Plate, Outer |
| *58-609 — 1" Offset Collar, Sprocket Shaft | 40. 58-773 Nut .164-32-S-N (6) |
| *58-610 — 1-1/4" Offset Collar, Sprocket Shaft | 41. 58-776 Clutch Spring - Medium (68lb @ 1") |
| *58-611 — 1-1/2" Offset Collar, Sprocket Shaft | 96-252 Clutch Spring - Heavy Duty (82lb @ 1") |
| *58-612 *58-106 1-3/4" Offset Collar, Sprocket Shaft | 96-253 Clutch Spring - Extra Heavy Duty (105lb @ 1") |
| *58-613 *58-107 2" Offset Collar, Sprocket Shaft | 42. 58-777 Clutch Spring Guide |
| 17. 58-726 Washer, 1.655 x .94 x .125 | 43. 58-778 Ny-Loc nut 1/4 - 28 |
| 18. 58-727 Nut, Motor Pulley | 44. 58-779 Clutch Adjuster Assy. |
| *58-724 Nut, Motor Pulley long
(for 1-1/2-1-3/4" offset collar) | 45. 58-780 Clutch Adjuster 0.4375-20x1-HX-S |
| 19. 58-728 Complete Trans Pulley Assembly
Includes 62, 26, 29, 24, 20. | |



- | | |
|---|--|
| 46. 58-781 NUT 0.4375-20-D-5 | 62. 58-798 SHCS 0.3125-18x0.875x0.875-S (2) |
| 47. 58-782 FW 0.4375 | 63. 58-774 SCHSCREW 0.164-32x0.625x0.625-HX-S (6) |
| 48. 58-917 Outboard Support Kit, must be used w/motor
plate 58-935 or 58-940 | 64. 58-790 SHCS 0.3125-18x.5x.5-S (6) |
| 49. 58-916 Cover, Outer, must be used w/motor plate
58-935 or 58-940 | 65. 58-736 SHCS 0.25-20x0.625x0.625-S (12) |
| 50. 58-786 Retaining Ring | 66. 58-794 SHCS 0.3125-18x1x1-S (11) |
| 51. 58-787 Bearing, Radial Ball, Single Row | 67. 58-795 SSFLATSKT 0.3125-18x1-HX-S (8) |
| 52. 58-812 Cap One, Outer Cover | 68. 58-796 SHCS 0.3125-18x0.75x0.75-S (6) |
| 53. 58-813 Cap Two, Outer Cover | 69. 58-775 Clutch Spring Stud (6) |
| 54. 58-815 Cap, Motor Pulley - w/ Outboard Support | 70. 58-718 Starter Bolt .25-20x2.75 (1)
(90'-93' Starter OEM / Thunderfire) |
| 55. 58-814 Cap, Trans Pulley - w/ Outboard Support | 71. 58-719 Starter Bolt 10-32x2.75 (1)
(94' & later Starter OEM) |
| 56. 58-793 Spacers, Outer Cover; (5)4.360", (3)3.920" | 72. 58-922 Pulley Inserts only, 3.35" |
| 57. 58-751 Belt, Ultima / Goodyear 3.35" 8mm 140T -3 | 73. 58-924 Outer Pulley 71T w/inserts, 3.35" |
| 58. 58-767 Motor Pulley Cap, w/o Outboard support | |
| 59. 58-765 Transmission Pulley Cap, w/o Outboard support | |
| 60. 58-797 SHCS 0.3125-18x1.5x1.5-S (4) | |
| 61. 58-799 SHCS 0.3125-18x2.25x1.125-S (4) | |