

DATA SHEET

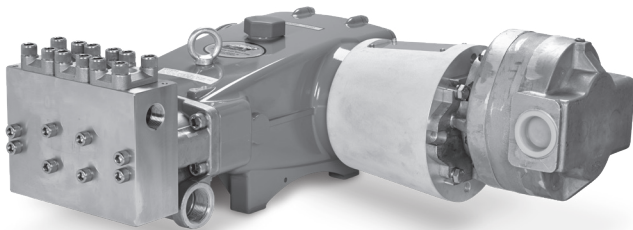
SAE BELL HOUSINGS AND COUPLERS



**Hydraulic Bell Housing
Models:** **76SAEC.25FR**
76SAEC.35FR

**Flexible Coupler
25 Frame Model:** **994303**

**Flexible Coupler
35 Frame Models:** **994403, 997872, 999180,
999206, 999368**



Bell Housing Assembly and Flexible Coupler Assembly
(Model 3560 and hydraulic motor sold separately)

FEATURES

- Bell housing design eliminates the need for belt selection, sizing and adjustments.
- Creates optimal shaft alignment, which reduces side-loading for quiet, trouble-free operation.
- Bell Housing is cast from lightweight, high-strength aluminum alloy.
- Compact direct mounting design reduces the space required compared to belt or gearbox drive assemblies.
- Ease of assembly reduces fabrication costs.
- Available as a completely assembled unit from Cat Pumps for fast and convenient assembly or as individual components.
- Designed to fit 25 and 35 Frame pumps.

PARTS LIST

Bell Housing Assemblies

Pump Series	Models	SAE Type	Bell Housing Assemblies
25FR Series	All 25FR Models	C2/C4	76SAEC.25FR
35FR Series	All 35FR Models	C2/C4	76SAEC.35FR

Bell housing assembly includes mounting hardware, flat cover with screws and bearing cover.

SAE TYPE:

C2 = SAE "C" 2 Bolt, 5" Pilot

C4 = SAE "C" 4 Bolt, 5" Pilot



76SAEC.35FR Bell Housing Assembly Shown



999368 Coupler Shown

PARTS LIST

Flexible Coupler Assemblies

	994303	997872	999368	994403	999180	999206
SAE Type	C2, C4	C2, C4	C2, C4	C2, C4	C2, C4	C2, C4
Motor Shaft Ø	1¼"	1¼"	1⅜"	1½"	1⅝"	1⅞"
Coupler Half, Motor	31898	996821	996816	996811	996814	996813
Coupler Half, Pump	996672	996818	996818	996818	996818	996818
Motor Shaft Key	⅝"	⅝"	⅝"	⅜"	⅜"	½"
Pump Shaft Ø	30 mm	35 mm	35 mm	35 mm	35 mm	35 mm
Pump Shaft Key	8 mm	10 mm	10 mm	10 mm	10 mm	10 mm
Key, Pump	30067	34021	34021	34021	34021	34021
Spyder	994302	997633	997633	997633	997633	997633
Spyder (Color)	Light Green	Purple	Purple	Purple	Purple	Purple
Torque Rating	188 ft-lbs	350 ft-lbs	350 ft-lbs	350 ft-lbs	350 ft-lbs	350 ft-lbs

SAE TYPE:

C2 = SAE "C" 2 Bolt, 5" Pilot

C4 = SAE "C" 4 Bolt, 5" Pilot

Torque Specifications Chart

Screw	Thread Size	Tool	in-lbs	ft-lbs	N-m
Bell Housing to Pump (25 Frame)	M8	6 mm Hex Wrench	115	9.6	13
Coupler Clamping Screws (25 Frame)	M8	6 mm Hex Wrench	300	25	34
Bell Housing to Pump (35 Frame)	M10	8 mm Hex Wrench	360	30	41
Coupler Clamping Screws (35 Frame)	M12	10 mm Hex Wrench	360	30	41
Hydraulic Motor to Bell Housing	⅝"	1⅝" Hex Wrench	360	30	41

INSTALLATION

Hydraulic Bell Housing and Flexible Coupling for 25 Frame Pumps

Note: Ensure your pump has a production date of August 2020 or later by reviewing the serial number near the feet of the crankcase. The first three characters indicate the month and year the pump was manufactured. Bell housings will only mount to drive ends manufactured after August 2020.

1. Separate the parts included in the bell housing and/or flexible coupler assembly packages. Both assemblies are offered in separate kits to cover the various torque ratings and pump models.
2. Remove the bearing cover screws and bearing cover from the extended shaft side of the pump and discard the screws. New screws are supplied in the bell housing assembly.
3. Remove the bearing cover O-ring and oil seal. Inspect for wear or damage and replace as needed.

Note: The bearing does not need to be removed.

4. Place the new bearing cover on a flat surface with the large opening facing up.
 5. Lubricate and install the O-ring into the groove of the new bearing cover.
 6. Install the oil seal into the new bearing cover with the spring side facing up.
 7. Slide the new bearing cover over the crankshaft. Align the new bearing cover holes with the crankcase hole pattern.
 8. From the side where the bearing cover screws are removed, slide the small end of the bell housing over the pump shaft with the Cat Pumps logo facing up and positioned 45° from the top.
 9. Install conical lock washers. Apply Loctite® 242® to the threads of the screws provided in the assembly and torque to 115 in-lbs, 13 N-m for M8 screws in an alternating rotation.
 10. Apply a light film of anti-seize lubricant to the pump shaft.
 11. Install the key on the pump shaft.
 12. Separate 30mm half of the flexible coupler with the spyder.
 13. Remove one (1) cross-clamp screw from the 30mm coupler half. Apply Loctite® 242® to the threads and then reinstall into the coupler half.
 14. Slide the 30mm coupler half onto the pump shaft. Align inner face of the coupler flush with the end of the crankshaft.
 15. Insert a 6mm hex wrench into the cross-clamp screw and tighten enough to hold the key and coupler in place. Tighten this screw to torque specifications in the final step.
 16. Apply a light film of anti-seize lubricant to the motor shaft.
 17. Install the motor key (supplied with motor) onto the motor shaft keyway.
 18. Remove one (1) cross-clamp screw from the motor coupler and apply Loctite® 242® to the threads of the screw and then reinstall into coupler half.
 19. Slide the motor half of the flexible coupler containing the spyder onto the motor shaft.
 20. Mount the motor with the coupler half onto the coupler half of the pump and bell housing, lining up the two halves.
 21. Apply Loctite® 242® to the threaded area of the bolts, slip lock washers onto bolts and thread through the flange into the motor. Torque to 360 in-lbs, 40.7 N-m for 5/8" bolts.
 22. To secure flexible coupling with cross-clamp screws, insert a screwdriver into the bell housing opening and press the flexible coupler towards the pump.
- Note:** Flexible coupler halves should not contact each other. Ensure there is a small gap between the two coupler halves.
23. Rotate the motor shaft so the cross-clamp screws align with the bell housing opening.
 24. Insert a 6mm hex wrench into each cross-clamp screw and torque to 300 in-lbs, 34 N-m for M8 cross-clamp screws.
 25. Install the flat cover over the opening on the bell housing.
 26. Install four (4) No. 8-32 screws and tighten.

Hydraulic Bell Housing and Flexible Coupling for 35 Frame Pumps

Note: Ensure your pump has a production date of June 2018 or later by reviewing the serial number near the feet of the crankcase. The first three characters indicate the month and year the pump was manufactured. Bell housings will only mount to drive ends manufactured after June 2018.

1. Separate the parts included in the bell housing and/or flexible coupler assembly packages. Both assemblies are offered in separate kits to cover the various torque ratings and pump models.
2. Remove the bearing cover screws and bearing cover from the extended shaft side of the pump and discard the screws. New screws are supplied in the bell housing assembly.
3. Ensure your pump has the 2-piece, 6-hole shims.

Note: The bearing will stay on the crankshaft, but the bearing race will stay in the old bearing cover, along with the oil seal and the O-ring.

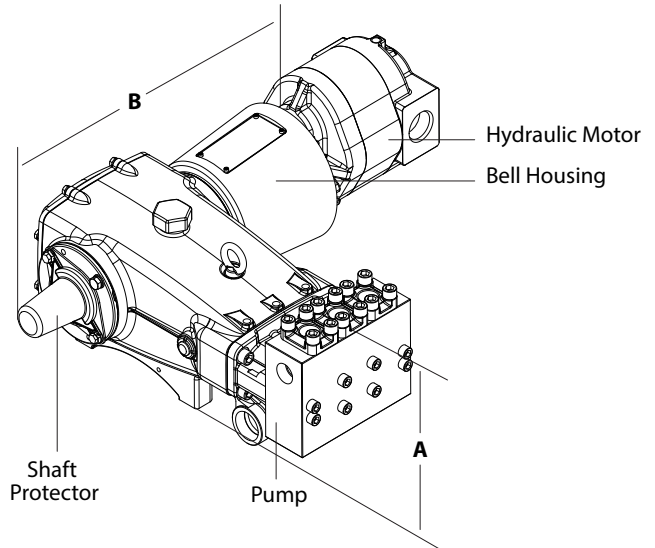
4. Remove the bearing cover O-ring, oil seal and bearing race from the old bearing cover. Inspect for wear or damage and replace as needed.
 5. Place the new bearing cover on a flat surface with the large opening facing up.
 6. Install the bearing race onto the new bearing cover.
 7. Lubricate and install the O-ring into the groove of the new bearing cover.
 8. Install the oil seal into the new bearing cover with the spring side facing up.
 9. Ensure that there is a gap between the top and bottom shim halves so the M10 screws will fit through.
 10. Slide the new bearing cover over the crankshaft and ensure the bearing race fits over the bearing on the crankshaft. Align the new bearing cover holes with the crankcase hole pattern.
 11. From the side where the bearing cover screws are removed, slide the small end of the bell housing over the pump shaft with the opening facing upwards.
 12. Install conical lock washers. Apply Loctite® 242® to the threads of the screws provided in the assembly and torque to 360 in-lbs, 41 N-m for M10 screws in an alternating rotation.
 13. Apply a light film of anti-seize lubricant to the pump shaft.
 14. Install the key on the pump shaft.
 15. Separate 35mm half of the flexible coupler with the spyder.
 16. Remove one (1) cross-clamp screw from the 35mm coupler half. Apply Loctite® 242® to the threads and then reinstall into the coupler half.
 17. Slide the 35mm coupler half onto the pump shaft. Align inner face of the coupler flush with the end of the crankshaft.
 18. Insert a 10mm hex wrench into the cross-clamp screw and tighten enough to hold the key and coupler in place. Tighten this screw to torque specifications in the final step.
 19. Apply a light film of anti-seize lubricant to the motor shaft.
 20. Install the motor key (supplied with motor) onto the motor shaft keyway.
 21. Remove one (1) cross-clamp screw from the motor coupler and apply Loctite® 242® to the threads of the screw and then reinstall into coupler half.
 22. Slide the motor half of the flexible coupler containing the spyder onto the motor shaft.
 23. Mount the motor with the coupler half onto the coupler half of the pump and bell housing, lining up the two halves.
 24. Apply Loctite® 242® to the threaded area of the bolts, slip lock washers onto bolts and thread through the flange into the motor. Torque to 360 in-lbs, 40.7 N-m for 5/8" bolts.
 25. To secure flexible coupling with cross-clamp screws, insert a screwdriver into the bell housing opening and press the flexible coupler towards the pump.
- Note:** Flexible coupler halves should not contact each other. Ensure there is a small gap between the two coupler halves.
26. Rotate the motor shaft so the cross-clamp screws align with the bell housing opening.
 27. Insert a 10mm hex wrench into each cross-clamp screw and torque to 360 in-lbs, 41 N-m for M10 cross-clamp screws.
 28. Install the flat cover over the opening on the bell housing.
 29. Install four (4) No. 8-32 screws and tighten.

DIMENSIONAL DRAWINGS

Bell Housing Assemblies

	A	B
25FR	8.61"	18.37"
35FR	9.88"	21.38"

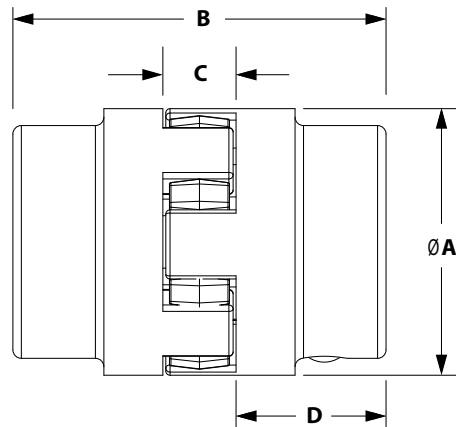
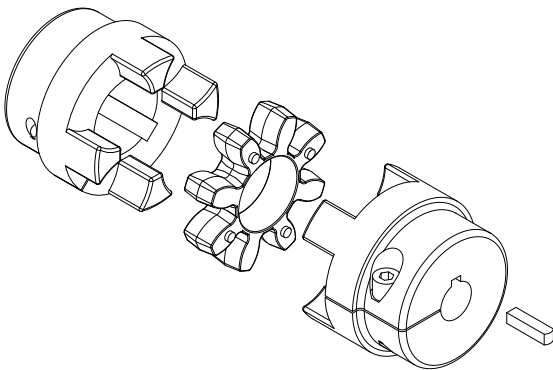
Note: Overall length will vary depending upon hydraulic motor selection



Model 3560 Shown

Flexible Coupler Assembly

Model	ØA	B	C	D
994303	3.14" (79.75mm)	4.41" (112.00mm)	0.86" (21.84mm)	1.77" (44.95mm)
997872	4.13" (104.90mm)	5.52" (140.20mm)	1.02" (25.90mm)	2.20" (55.90mm)
999368	4.13" (104.90mm)	5.52" (140.20mm)	1.02" (25.90mm)	2.20" (55.90mm)
994403	4.13" (104.90mm)	5.52" (140.20mm)	1.02" (25.90mm)	2.20" (55.90mm)
999180	4.13" (104.90mm)	5.52" (140.20mm)	1.02" (25.90mm)	2.20" (55.90mm)
999206	4.13" (104.90mm)	5.52" (140.20mm)	1.02" (25.90mm)	2.20" (55.90mm)



⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty