

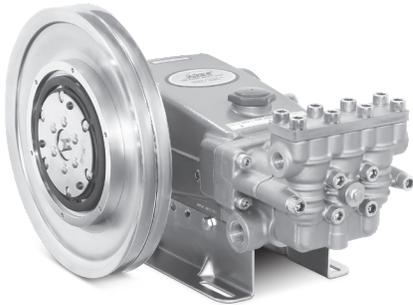
DATA SHEET

INDUSTRIAL CLUTCHES



Models: 34628, 34630 Use with Pump Models: 56, 56HS, 57, 60, 530, 550, 700**, 740, 760, 781**, 784, 786

Model: 34563 Use with Pump Models: 650, 660, 661D, 1050, 1051, 1051D, 1057, 1530, 1531, 1540E, 1541, 1560, 1570, 1580*, 1730, 1731, 1810



Pump Model 1560 shown (pump sold separately)

FEATURES

- A precision-machined aluminum clutch plate ensures proper alignment and secure mounting.
- High-strength forged rotor, hub and armature ensure maximum torque and long service life.
- A projection-welded coil assembly adds strength and stability in high-vibration applications.
- Special e-coating delivers excellent corrosion resistance and long-lasting protection.
- Bearings use an advanced lubricant that maintains consistent viscosity at high temperatures and resists water in harsh environments.

SPECIFICATIONS

	34628	34630	34563
Pump Frame	7/8 Frame	7/8 Frame	15/18 Frame
Pulley Grooves	1	2	2
Shaft Diameter	24 mm	24 mm	30 mm

COMMON SPECIFICATIONS

	U.S.	Metric
Pitch Diameter	12.4"	315 mm
Belt Type	B	B
Torque	100 ft-lbs	135 Nm
Watts	50	50
Amps	4.2	4.2
Voltage Required	12V DC	12V DC
Weight	34628	19.4 lbs
	34630	23.2 lbs
	34563	25.0 lbs
Dimensions	2.45 x 12.75"	62 x 324 mm

* Maximum rated pump performance exceeds clutch rating of 100 ft-lbs. Ensure your application does not exceed 100 ft-lbs.

$$\text{Torque (ft-lbs)} = 3.6 \times \frac{\text{gpm} \times \text{psi}}{\text{rpm}}$$

** The pump crankshaft must be changed to a shorter shaft to mount a clutch on these models. Please contact Cat Pumps or review the applicable pump data sheet to determine the correct crankshaft part number, then install it into the pump. Pump model 700.CC has the correct crankshaft to mount the clutch.

SELECTION

Select a clutch that fits your pump from the list on the top of page 1. Then, choose a clutch model that matches the number of grooves required for the drive package. The specified drive package should also consider the clutch's diameter and maximum torque rating.

INSTALLATION

1. Remove the four bearing cover screws on pump and discard.
2. On 7 frame plunger pumps, line up the clutch plate countersunk holes with the bearing cover screw holes. Apply Loctite® 242® to threads of the flat socket head screws. Secure with four countersunk head screws (M6) and lockwashers (M6) and torque per specifications.

Note: Do not re-use pump bearing cover screws.

3. On 15 frame plunger pumps, using spacer as an alignment tool, slide large diameter end of spacer first over shaft of pump. Install clutch plate over spacer until flush against crankcase. Ensure countersunk holes of clutch plate line up with bearing cover screw holes. Apply Loctite® 242® to threads of the flat socket head screws. Secure with four flat socket head screws (M8) and lockwashers (M8) and torque per specifications.

Note: Do not re-use pump bearing cover screws. Older pumps have 6 mm screws.

4. Remove spacer from crankshaft. Reinstall the spacer so that small diameter end now faces the pump.
5. Mount the coil assembly onto the clutch plate and secure with three flanged screws. Torque evenly per specifications.

6. Lubricate the pump shaft with anti-seize lubricant.
7. Place clutch assembly on work surface with visible bearing facing up.
8. Position pulley on clutch assembly with concave side up. On dual grooves, place second pulley with concave side down.
9. Line up the six pulley holes with six clutch assembly holes. Secure with six socket head cap screws and torque per specifications.
10. Slide the clutch/pulley assembly over shaft. Be certain keyway of pump is aligned with armature keyway and insert the key into the pump shaft. Apply Loctite® 242® to threads of shaft screw. Secure with flat washer and shaft screw (M8 x 25) and torque per specifications.
11. Connect the lead wire to the positive side of the electrical control circuit. Also, be certain there is an adequate grounded connection to the coil assembly plate.
12. Engage and disengage the clutch to ensure proper functioning. If full load is required initially from the pump, allow clutch to engage 20–50 cycles before commencing normal operation for adequate burnishing. Follow standard belt mounting and center distance procedures to determine drive pulley size, speed and horsepower per belt.

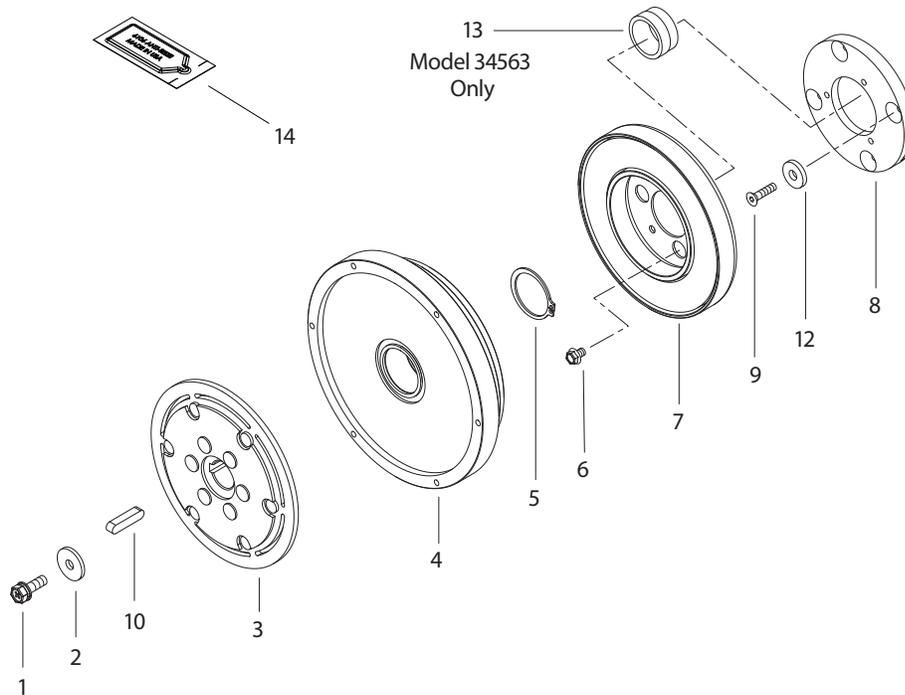
OPERATION

The clutch works with a flow switch, pressure switch or a manual on/off switch installed in the system and connected to a 12V DC power supply to supply an electrical control circuit to the clutch. During operation, the control circuit engages the clutch, which turns the pump shaft. When the trigger gun is released, or the operator manually turns the system off, the control circuit breaks, disengaging the clutch and stopping the pump's shaft.

TORQUE REQUIREMENTS

Item	Thread Size	Tool Size	in-lbs	Torque ft-lbs	Nm
Plate Screws	M6	M5 Allen	55	4.6	6.2
	M8	M6 Allen	115	9.6	13
Coil Assembly Screws	¼"	⅜" Hex	55	4.6	6.2
Hub/Pulley Screws	¼"	⅜" Allen	55	4.6	6.2
Shaft Screw	M8	M13 Hex	115	9.6	13

EXPLODED VIEW



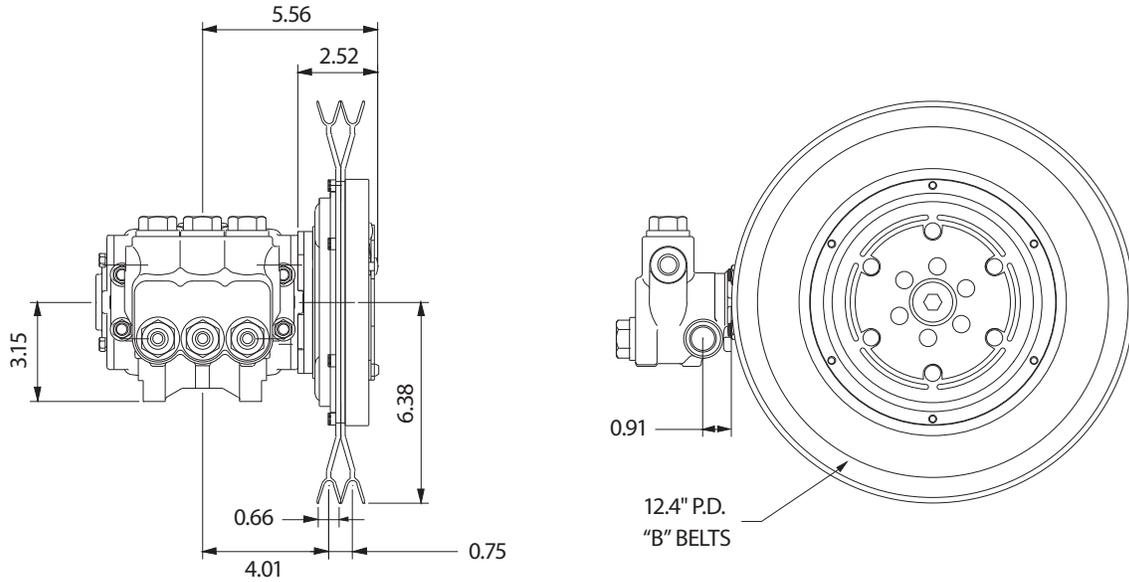
PARTS LIST

ITEM	PN	MATL	DESCRIPTION	QTY
1	—	STCP	Screw, Shaft, Hex Head with Lockwashers, 7 Frame (M8 x 25) 15 Frame (M8 x 20)	1
2	—	STZP	Washer, Flat (M8)	1
3	—	—	Armature	1
4	—	—	Rotor	1
5	—	—	Ring, Snap	1
6	—	STZP	Screw, Flanged Coil Assembly	3
7	—	—	Assembly, Coil	1
8	—	AL	Plate, Clutch	1
9	—	S	Screw, Flat Socket Head, 7 Frame (M6 x 25), 15 Frame (M8 x 40)	4
10	991036	STL	Key (M8 x 7 x 36)	1
	990069	STL	Key (M8 x 6.35 x 40) (Model 34563 Only)	1
11	—	STZP	Pulley, "B" (12.4") (Not Shown)	1/2
12	—	—	Lockwasher, 7 Frame (M6), 15 Frame (M8)	4
13	—	AL	Spacer (Model 34563 Only)	1
14	6106	—	Lubricant, Anti-Seize (2 ml)	1

Material Codes (Not Part of Part No.):

AL=Aluminum S=304SS STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated

DIMENSIONAL



TROUBLESHOOTING

Problems	Probable Cause	Solution
Clutch will not engage	<ul style="list-style-type: none"> Loose positive ground or connection Improper voltage 	<ul style="list-style-type: none"> Tighten positive or ground connections Confirm 12V DC
Squealing belt(s)	<ul style="list-style-type: none"> Belt slippage or belt tension 	<ul style="list-style-type: none"> Tighten belt(s) or replace
Short belt life	<ul style="list-style-type: none"> Side-to-side alignment and belt tension 	<ul style="list-style-type: none"> Realign belt, tighten or replace
Excessive noise when clutch is disengaged	<ul style="list-style-type: none"> Worn bearing 	<ul style="list-style-type: none"> Replace clutch assembly
Clutch cycling	<ul style="list-style-type: none"> Inadequate voltage Worn rotor or discolored rotor surface 	<ul style="list-style-type: none"> Confirm voltage Replace clutch assembly
Scraping noise when clutch engaged and/or disengaged	<ul style="list-style-type: none"> Improper alignment of coil and rotor assembly 	<ul style="list-style-type: none"> Realign coil and rotor assembly

⚠ 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