

DATA SHEET

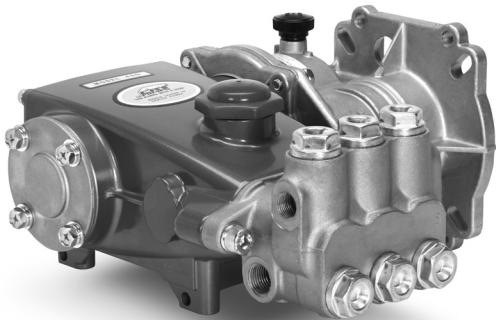
DIRECT DRIVE GEARBOXES



Models:

8065 Used on Model 45 Pump

8071, 8078 Used on Model 56, 60, 700, 740, 760, 781 Pumps



Model 45G1 Shown

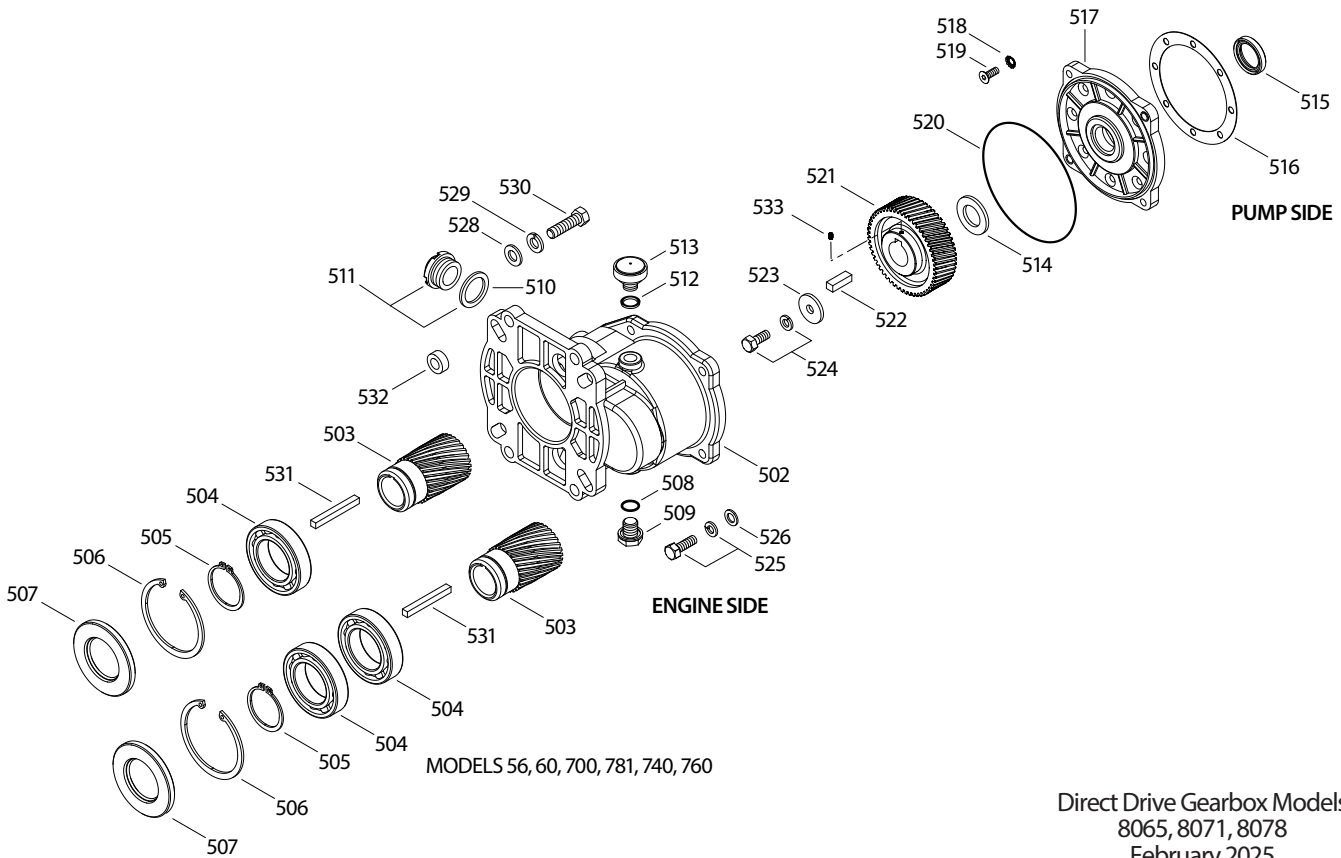
SPECIFICATIONS	U.S. Measure	Metric Measure
Gear Ratio	2.04 to 1	2.04 to 1
Mounting Face	6 1/2"	165 mm
Engine Shaft Diameter:		
8065, 8071	1"	25.4 mm
8078	1 1/8"	28.5 mm
Engine Shaft Length	3 1/4"	82.6 mm
Gearbox Capacity	10 oz	0.30 l
Weight:		
8065	4.2 lbs	1.90 kg
8071, 8078	7.5 lbs	3.40 kg
Dimensions	6.42 x 4.53 x 8.19"	163 x 115 x 208 mm

GEARBOX FEATURES

- No pulley selection or need for adjustment allows for quick, trouble-free gas engine mounting.
- Compact flange mount permits easy, direct mounting to most gas engines.*
- Sealed housing provides independent gearbox lubrication for maximum service life.
- Hardened steel helical gears ensure smooth, quiet operation.

*Mounting Flange: SAE J609, Flange B, Extensions 4 (1" Ø) or 4a (1 1/8" Ø),
Shaft length = 3 1/4", Pilot Ø = 5 3/4", B.C. Ø = 6 1/2", Thread = 3/8" 16 UNC TAP

EXPLODED VIEW



Direct Drive Gearbox Models
8065, 8071, 8078
February 2025

PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	GEARBOX MODEL	QTY	ITEM	PART NUMBER	MATL	DESCRIPTION	GEARBOX MODEL	QTY
502	44673	AL	Housing	8065	1	518	126745	STCP R	Lockwasher, Conical (M6)	8071, 8078	8
	45351	AL	Housing	8071, 8078	1		126746	STCP R	Lockwasher, Conical (M8)	8065	4
503	44675	STL	Gear, Pinion (1")	8065	1	519	45763	STZP	Screw, Hex Socket Flat Head (M6 x 16)	8071, 8078	8
	45352	STL	Gear, Pinion (1")	8071	1		46124	STL	Screw, Hex Socket Flat Head (M8 x 16)	8065	4
	45358	STL	Gear, Pinion (1½")	8078	1	520	14045	NBR	O-Ring, Flange	All Models	1
504	56110	STL	Bearing, Ball	All Models	1/2	521	44680	STL	Gear, Helical Drive	8071, 8078	1
505	55459	STL	Retainer, Ring (External)	All Models	1		44711	STL	Gear, Helical Drive	8065	1
506	146423	STL	Retainer, Ring (Internal)	All Models	1	522	44459	STL	Key (M8 x 7 x 24)	8071, 8078	1
507	44676	NBR	Seal, Oil Case, Pinion	All Models	1		101814	STL	Key (M6 x 6 x 27)	8065	1
508	23170	NBR	O-Ring, Drain Plug	All Models	1	523	126579	STZP R	Washer, Flat Holding	All Models	1
509	25625	STCP	Plug, Oil Drain (¼"-19 BSP)	All Models	1	524	92521	STZP	Screw, Sems Hex Head Retaining (M8 x 20)	All Models	1
510	44428	NBR	Gasket, Flat, Oil Gauge	All Models	1	525	92530	STZP	Screw, Sems Hex Head (M8 x 25)	All Models	4
511	92241	PC	Gauge, Bubble Oil with Gasket	All Models	1	526	126573	STCP R	Washer, Flat (M8)	All Models	4
512	103685	NBR	Gasket, Flat, Oil Cap	All Models	1	528	126574	STZP R	Washer, Flat (M10)	All Models	4
513	44374	—	Cap, Oil Filler (Black)	All Models	1	529	126231	STCP R	Lockwasher, Split (M10)	All Models	4
514	126577	STCP R	Washer (M20)	8065	1	530	126543	STCP R	Screw, Hex Head (¾"-16 x 1¾")	All Models	4
515	44679	NBR	Seal, Oil, Bearing Cover	All Models	1	531	44455	STL	Key (¼" x ¼" x 2½")	All Models	1
516	45759	—	Gasket, Flange	8071, 8078	1	532	34042	AL	Spacer	All Models	4
	46121	—	Gasket, Flange	8065	1	533	132899	STL	Screw, Set (M5 x 0.8)	8071, 8078	1
517	45934	AL	Flange, Bearing Cover (M6)	8071, 7078	1						
	46122	AL	Flange, Bearing Cover (M8)	8065	1						

R Components comply with RoHS Directive
 Bold print numbers are unique to the particular gearbox model.
 MATERIAL CODES (Not Part of Part Number): AL=Aluminum NBR=Medium Nitrile (Buna-N)
 PC=Poly Carbonate STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated

FIELD CONVERSION FROM STANDARD PUMP

Follow these instructions to convert a standard pump to a gearbox pump.

1. Drain oil from pump.
2. Remove the four (4) Hex Head Combination (HHC) screws and bearing cover from the pump.
3. On 7 frame pumps, remove the outer bearing race from the bearing cover by gently tapping it on a work surface to unseat it. Inspect the outer race for excessive wear or damage. If damaged, replace it with a new outer race.

Note: Leave the tapered bearing on the crankshaft.

4. Discard the bearing cover, O-ring, gasket and oil seal.

Note: The gearbox comes with a bearing cover flange, O-ring, oil seal, gasket, key, anti-seize, eight (8) lock washers and eight (8) hex socket flat head screws.

5. On 5 frame pumps, the pump has a ball bearing and there is no outer bearing race. Leave ball bearing on crankshaft.
6. Discard the bearing cover, O-ring and oil seal.

Note: The gearbox comes with a bearing cover flange, O-ring, oil seal, key, anti-seize, four (4) lock washers and four (4) hex socket flat head screws.

7. Install the oil seal flat side down into the bearing cover flange. The grooved side with the spring should face the pump. Do not grease the seal.
8. On 7 frame pumps, press the outer bearing race into the new bearing cover flange with the tapered side facing the pump. Ensure the outer race is completely seated into the bearing cover flange before mounting it onto the pump.
9. Ensure the surfaces where the gasket seal and crankcase meet are clean and debris-free.
10. Place the four-hole or eight-hole gasket onto the pump side of the bearing cover flange and ensure the gasket's holes align with those of the bearing cover flange.
11. Lubricate and install the O-ring into the groove on the engine side of the bearing cover flange.
12. Slide the lock washer over each of the hex socket flat head screws. Apply Loctite® 242® to the screw threads.
13. Slide the bearing cover flange over the pump crankshaft with the cast number facing forward towards the pump's manifold. Positioned correctly, the top upper right and lower left corner holes have a raised surface to act as a guide and locking position for the gearbox.
14. Install four (4) or eight (8) hex socket flat head screws with lock washers through the holes in the bearing cover flange and hand thread them into the pump crankcase. Using 4 mm or 5mm tool tighten per torque chart.
15. Slide washer over pump crankshaft.
16. Lubricate the pump crankshaft keyway with anti-seize (see PN 6106) and install the key.
17. Align the keyway of the helical drive gear with the key onto the pump crankshaft and slide on the helical drive gear.
18. Slide the flat holding washer over the HHC screw. Apply Loctite® 609® to threads of the HHC screw and hand thread the screw into the pump crankshaft. Using 13mm tool tighten per torque chart.
19. On the 7 frame pumps, apply Loctite® 242® to threads of set screw. Install set screw into threaded hold of the helical gear. Using M4 Allen tighten per torque chart. No set screw for 5 frame pumps.
20. Grasp pump with the helical drive gear and slide into the gearbox housing. Carefully match the helical drive gear teeth with the pinion gear teeth.
21. Secure the gearbox housing to the bearing cover flange by inserting the HHC screws and washer from the engine side of the gearbox housing. Hand thread the screws. Using 13mm tool tighten per torque chart.
22. Proceed to **Mounting Pump With Gearbox Onto Engine.**

MOUNTING PUMP WITH GEARBOX ONTO ENGINE

1. Rotate crankshaft of engine until keyway is at the top.
2. Apply anti-seize lubricant (see PN 6106) to engine shaft and keyway. Insert key as supplied by Cat Pumps into engine keyway.
3. Line up keyway of gearbox pinion gear and engine shaft and carefully slide pump with gearbox onto engine shaft until flush with engine face.

Note: Due to varying engine shaft lengths it may be necessary to install a small spacer on each of the four (4) hex head screws between the gearbox flange and engine face.

4. Slide lock washer and then flat washer onto each hex head screw. Hand thread hex head screws to engine. Using $\frac{3}{16}$ " tool tighten per torque chart.
5. Before starting operation, fill gearbox housing to the center red dot located on the oil gauge with 80W-140 weight gear lube (see PN 6110). Fill pump crankcase to center of red dot located on the oil gauge with Cat Pumps high-pressure pump oil (see PN 6107).

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