

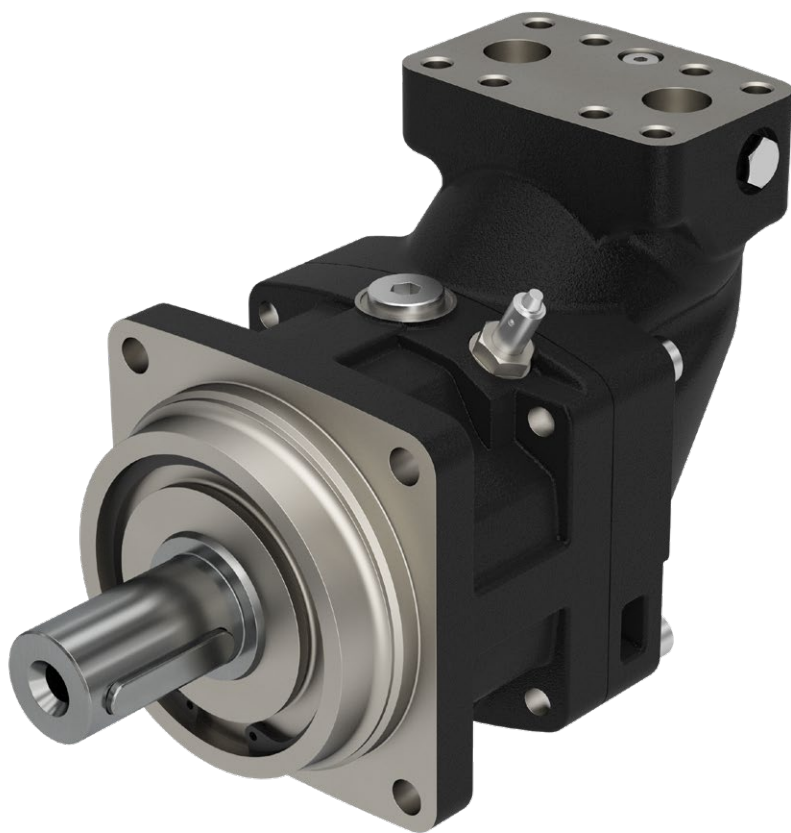


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MSG30-5524-M1/UK

Service/ Spare Parts Manual Series F10-30 to -125

Effective: March, 2023
Supersedes: October, 2022



ENGINEERING YOUR SUCCESS.

Basic formulas for hydraulic motors

Flow (q)	D – displacement [cm ³ /rev]
$q = \frac{D \times n}{1000 \times \eta_v}$ [l/min]	n – shaft speed [rpm]
	η_v – volumetric efficiency
Torque (M)	Δp – differential pressure [bar] (between inlet and outlet)
$M = \frac{D \times \Delta p \times \eta_{hm}}{63}$ [Nm]	η_{hm} – mechanical efficiency
Power (P)	η_t – overall efficiency ($\eta_t = \eta_v \times \eta_{hm}$)
$P = \frac{q \times \Delta p \times \eta_t}{600}$ [kW]	

Basic formulas for hydraulic pumps

Flow (q)	D – displacement [cm ³ /rev]
$q = \frac{D \times n \times \eta_v}{1000}$ [l/min]	n – shaft speed [rpm]
	η_v – volumetric efficiency
Torque (M)	Δp – differential pressure [bar] (between inlet and outlet)
$M = \frac{D \times \Delta p}{63 \times \eta_{hm}}$ [Nm]	η_{hm} – mechanical efficiency
Power (P)	η_t – overall efficiency ($\eta_t = \eta_v \times \eta_{hm}$)
$P = \frac{q \times \Delta p}{600 \times \eta_t}$ [kW]	

Conversion factors

1 kg	2.20 lb
1 N	0.225 lbf
1 Nm	0.738 lbf ft
1 bar	14.5 psi
1 l	0.264 US gallon
1 cm ³	0.061 cu in
1 mm	0.039 in
1 °C	$\frac{5}{9} (°F - 32)$
1 kW	1.34 hp

Conversion factors

1 lb	0.454 kg
1 lbf	4.448 N
1 lbf ft	1.356 Nm
1 psi	0.068948 bar
1 US gallon	3.785 l
1 cu in	16.387 cm ³
1 in	25.4 mm
1 °F	$\frac{9}{5} °C + 32$
1 hp	0.7457 kW

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General information

F10 is bent axis, fixed displacement medium duty motor/pump series. They can be used in numerous applications in both open and closed loop circuits.

Series F10 conforms to current ISO and SAE mounting flange and shaft end configurations. A very compact cartridge version is also available.

Frame sizes: F10-30, -37, -56, -80, -90, -107, -125

Thanks to the unique spherical piston design, F10 motors can be used at unusually high shaft speeds. Operating pressures to 350 bar provides for the high output power capability.

The 40° angle between shaft and cylinder barrel allows for a very compact, lightweight motor/pump.

The laminated piston ring offers important advantages such as low internal leakage and thermal shock resistance.

The pump version has highly engineered valve plates for increased selfpriming speed and low noise, available with left and right hand rotation.

The F10 motors produce very high torque at start-up as well as at low speeds. Our unique timing gear design synchronizes shaft and cylinder barrel, making the F10 very tolerant to high 'G' forces and torsional vibrations.

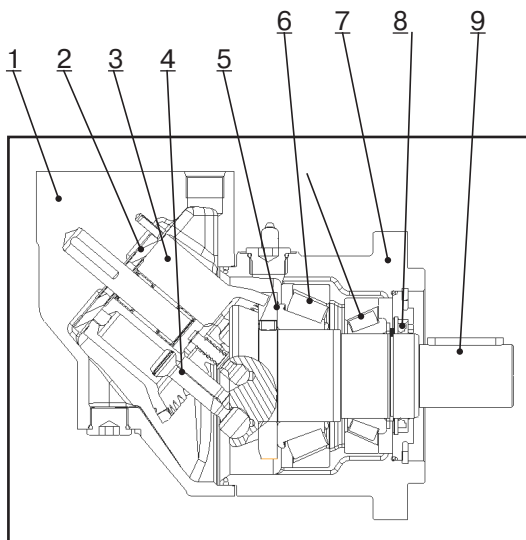
Heavy duty roller bearings permit substantial external axial and radial shaft loads.

The F10's have a simple and straightforward design with very few moving parts, making them very reliable motors/pumps.

The unique piston locking, timing gear and bearing set-up as well as the limited number of parts add up to a very robust design with long service life and, above all, proven reliability.

F10 cross section

1. Barrel housing
2. Valve plate
3. Cylinder barrel
4. Piston with piston ring
5. Timing gear
6. Tapered roller bearing
7. Bearing housing
8. Shaft seal
9. Output/input shaft



Frame size F10	-030	-037	-056	-080	-090	-107	-125
Displacement [cm ³ /rev]	30.0	37.0	54.4	78.6	93.0	104.0	125.0
Operating pressure ³⁾							
max intermittent ¹⁾ [bar]	350	350	350	350	350	350	350
max continuous [bar]	300	300	300	300	300	300	300
Motor operating speed ³⁾ [rpm]							
max intermittent ¹⁾	5400	4900	4200	3900	3800	3500	3100
max continuous	4900	4400	3800	3500	3400	3200	2800
min continuous	50	50	50	50	50	50	50
Max pump selfpriming speed							
L or R function; max [rpm]	3100	3000	2300	2150	2000	1950	2000
Motor input flow							
max intermittent ¹⁾ [l/min]	162	196	228	307	353	364	387
max continuous [l/min]	147	176	207	275	316	333	350
Drain temperature , max [°C]	115	115	115	115	115	115	115
min [°C]	-40	-40	-40	-40	-40	-40	-40
Theoretical torque at 100 bar [Nm]	47.6	58.7	86.3	124.7	174.8	198.4	241
Mass moment of inertia							
(x10 ⁻³) [kg m ²]	1.7	1.7	2.9	5.0	8.4	8.4	11.2
Weight [kg]	11.5	11.5	15.7	18.6	25.7	25.7	33.0

1) Intermittent: max 6 seconds in any one minute.

Preparation

Before disassembling motor:

- Always keep work space clean
- Always use correct tools
- Make documentation and take photos if required
- Only use standard spare parts from Parker

Changing shaft seal:

Follow step: 8 – 12 and 26 – 30

Changing seal kit:

Follow step: 1 – 2, 7 – 12, 26 – 37

Changing repair kit:

Follow step: 1 – 5, 32 – 37

Changing shaft and bearing kit:

Follow step: 1 – 37

Tools required

- Retaining ring tool, internal and external
- Hex key
- Plastic hammer
- Mandrel
- Hook tool
- Torque wrench
- Brush
- Hydraulic press



Disassemble



1. Fasten the unit in a vice.
Loosen the 4 bolts (item 491).



2. Disassemble the barrel housing (item 110). Make sure that the valve plate doesn't fall out when lifting the barrel housing off.

Tips! If the parts are stuck, use a plastic hammer and tap carefully underneath.

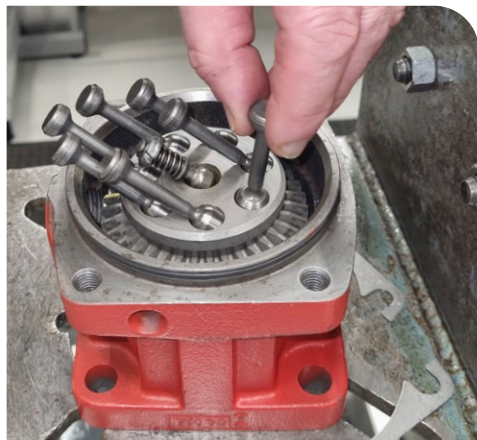


3. When disassembling valve plate (item 121), use a tool like a hook and remove as shown.

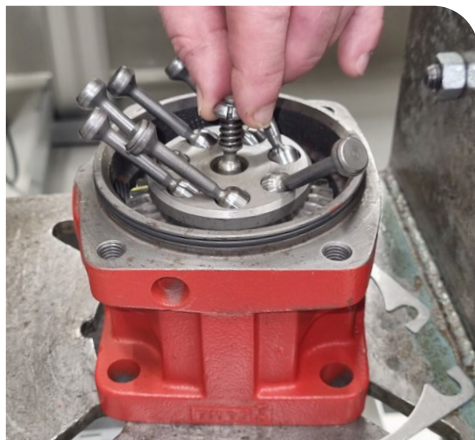


4. Remove the cylinder barrel (item 411)

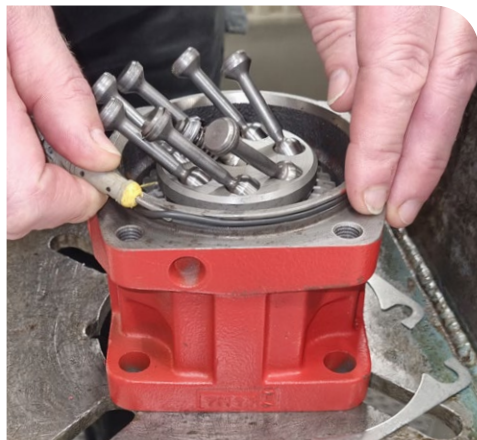
Disassemble



5. Remove the pistons (item 440)



6. Remove the barrel support (item 430)



7. Remove the O-ring (item 221)
Always change seal kit when
removing seals



8. Disassemble the retaining ring
(item 237)

Disassemble



9. Remove the seal carrier (item 231)



10. Remove the O-ring (item 225)
Always change seal kit when removing seals.



11. Disassemble the retaining ring (item 238)



12. Tap the shaft seal out with hammer and mandrel.

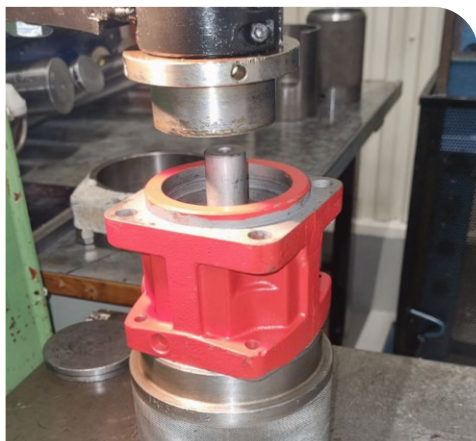
Disassemble



13. Disassemble the retaining ring (item 478)



14. Remove the space washer (item 476)



15. Place the bearing housing (item 211) on a tube. Press out the shaft (item 311) by pressing on the shaft end.

Tips! Put some soft material (towel or rag) inside the tube to avoid marks when shaft loosen.



16. Remove the small tapered roller bearing (item 470)

Disassemble



17. Tap the small bearing ring with a mandrel and hammer



18. Tap the large bearing ring with a mandrel and hammer



19. Place the ring gear (item 453) on a tube. Press out the shaft (item 311) by pressing on the shaft end.

Tips! Put some soft material (towel or rag) inside the tube to avoid marks when shaft loosen.

Assembly



20. If bearings have been disassembled it's recommended to change both tapered bearings, see spare part list for correct bearing kit.

Press down the tapered bearing (item 460) and the ring gear (item 452) on the shaft with a press.

Bearings are available in bearing kit
Use a tube, see page 16.



22. Press down the bearing ring (item 470) in the bearing housing (item 211) with a press.

Use a tube that match the outer diameter of the bearing ring.



21. Press down the bearing ring (item 460) in the bearing housing (item 211) with a press.
Use a tube that match the outer diameter of the bearing ring



23. Place the bearing housing (item 211) on the shaft (item 311) and place the small bearing (item 470) on the shaft. Press down the bearing at the same time rotate the bearing housing. Correct bearing preload is achieved when there are no gap or play in the bearings and a small resistance is achieved when rotating the bearing housing.

Assembly



24. Install the space washer (item 476).
Space washers are available in different thickness, these are included in bearing kit.



25. Install the retaining ring (item 478)
Included in bearing kit
Secure that the retaining ring is correct mounted in the groove and the space washer is tight mounted.
Tips! Use mandrel and hammer to tap carefully to secure that retaining ring is mounted correct.



26. Install the O-ring (item 225)
Included in seal kit
Tips! Use some oil on the O-ring



27. Tap the new shaft seal back with a tube and a hammer.

Assembly



28. Assemble the retaining ring (item 238)



29. Install the seal carrier (item 231)

Tips! Protect the shaft seal from sharp edges on shaft.



30. Install the retaining ring (item 237)

Included in seal kit

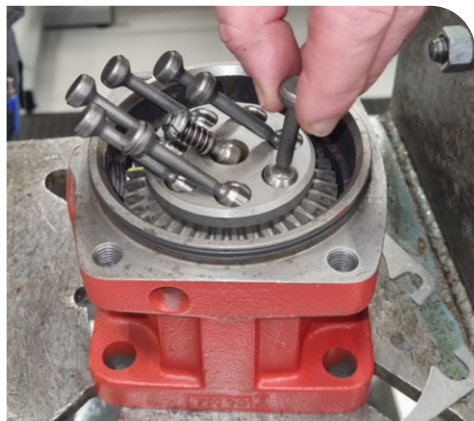
Tips! Tap with mandrel and hammer to secure retaining ring is correct assembled.



31. Install the O-ring (item 221)

Included in seal kit

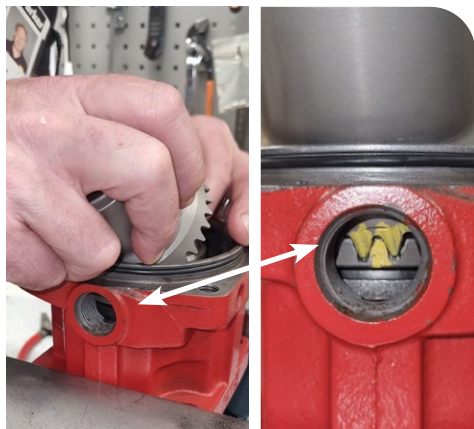
Assembly



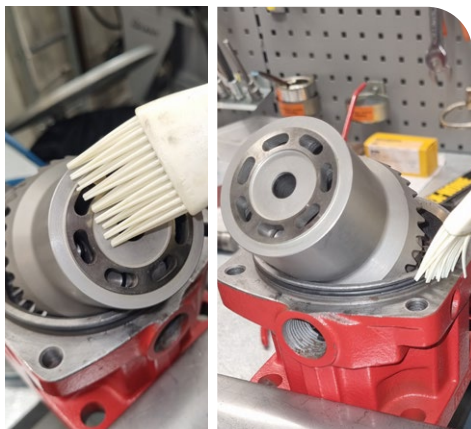
32. Lubricate the ball socket with oil. Install the pistons (item 440), included in repair kit. Make sure that the piston can rotate without any restrictions. Install the barrel support (item 430). Use grease on the support ball to secure it will stay in position.



33. When assembling valve plate (item 121), secure that the groove is correct assembled. Also secure notches as towards the cylinder barrel. Valve plate is available in repair kit. **Tips!** Use the cylinder barrel to tap carefully until valve plate is assembled correct in barrel housing.



34. Install the cylinder barrel (item 411). Ensure correct timing (marking – punch mark on ring gear and cylinder barrel). Wrong assembled timing can cause damage.



35. Use oil on cylinder barrel and O-ring.

Assembly



36. Install the barrel housing (item 110) by mount the center pin of barrel housing in the cylinder barrel, move the barrel housing in correct angle.

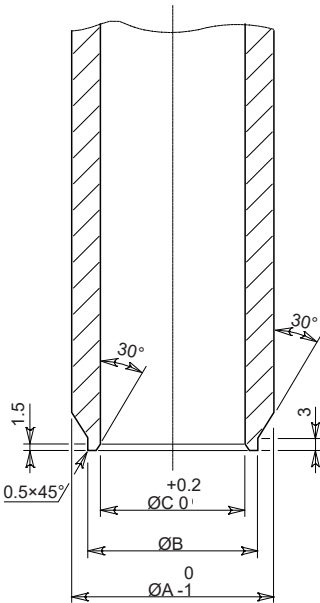
Install the screws (item 491) and shims (item 488)

Tips! Tap carefully with plastic hammer on Barrel housing.



37. Fasten the 4 bolts (item 491) to specified torque.

- F10-030 65 ± 10 Nm
- F10-037 65 ± 10 Nm
- F10-056 65 ± 10 Nm
- F10-080 65 ± 10 Nm
- F10-090 115 ± 10 Nm
- F10-107 115 ± 10 Nm
- F10-125 115 ± 10 Nm

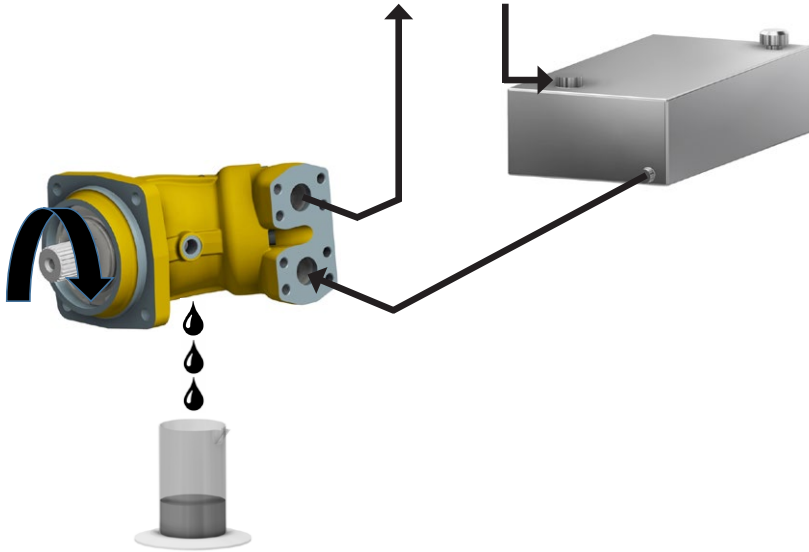


Type	øA	øB	øC
F10-030/037	60	49	42
F10-056	65	58	52
F10-080	73	64	57
F10-090/-107	74	70	62
F10-125	82	75	67

Test Procedure

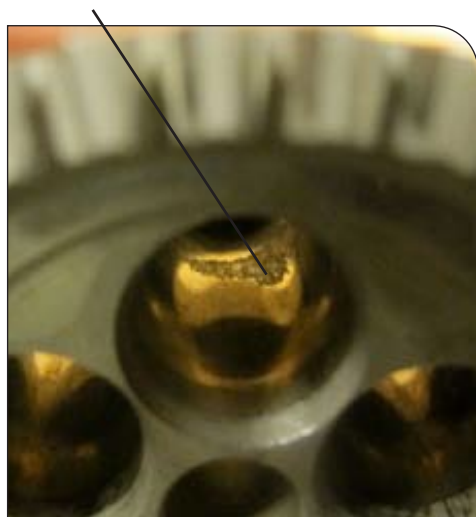
The general condition of the unit can be established by checking the drain flow. Remove the drain line and keep the drain port above a suitable container. Run the unit at 500 rpm and pressurise the system to 200 bar (3000 psi)

Measure the drain flow for one minute; if it exceeds the maximum figures shown below, the unit is worn or damaged internally and should be replaced or repaired. Also, check for leakage at the shaft seal and between the bearing and barrel housings.



Series	Normal (gpm, US)	Normal (l/min)	Max (gpm, US)	Max (l/min)
F10-030	0.12	0.5	0.24	0.9
F10-037	0.16	0.6	0.32	1.2
F10-056	0.24	0.9	0.47	1.8
F10-080	0.32	1.2	0.64	2.4
F10-090	0.37	1.4	0.74	2.8
F10-107	0.44	1.7	0.87	3.3
F10-125	0.50	1.9	0.99	3.8

Cavitation



Cavitation marks in the cylinder barrel bores, on the port side or on the valve plate depends on air in the oil.

Reasons can be when inlet pressure/flow isn't sufficient. Example when stopping a fan drive and inertia will run the motor.



Why cavitation?

- Too high speed
- Too low inlet pressure (pump mode)

What consequence?

- A metallic sound comes from the system
- Material damage as craters in the goods which contaminate the hydraulic system
- Lift off if severe cavitation
- Shaft seal leakage

Cavitation



Valve plate with scratched surface.

The damage depends on contaminated oil due to poor filtration, clogged filter, previous break down or bad handling when filling the reservoir.



Cylinder barrel with severe damaged surface at the porting. The damage depends on contaminated oil due to poor filtration, clogged filter, previous break down or bad handling when filling the reservoir.



Pistons with worn out piston rings, some of them are missing and the spher is very damaged.

This depends on contaminated oil and/or overspeed/cavitation.

Cavitation



Pistons with the grinding rings intact have been in a clean system. No over-speed and good viscosity on the oil.

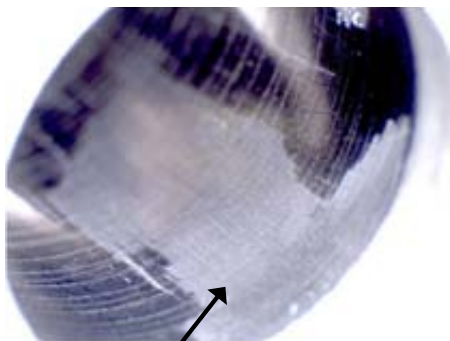


Pistons with worn piston ball. The ball is polished due to contaminated oil and/or overspeed.

Note!

High temperature (low viscosity) can be a reason.

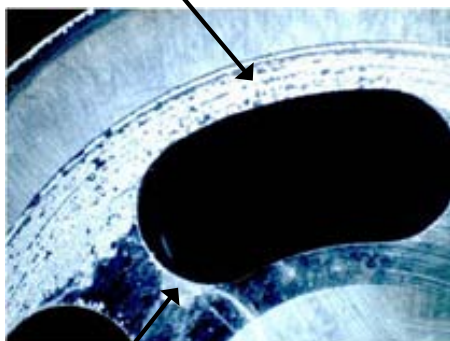
Cavitation



Severe damage in cylinder bore at the pistons turning point.

Reason is too high speed, the piston is thrown out in the periphery and breaks through the protecting oil film.

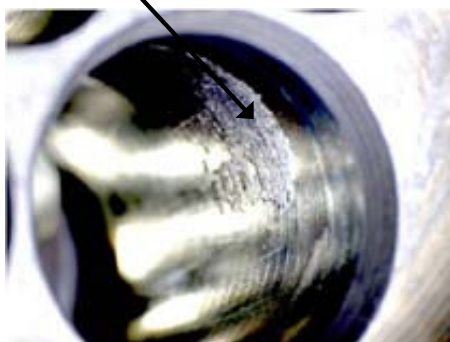
High speed wear



High speed wear at the outer periphery on the cylinder barrel. The protecting oil film can't withstand the high speed.

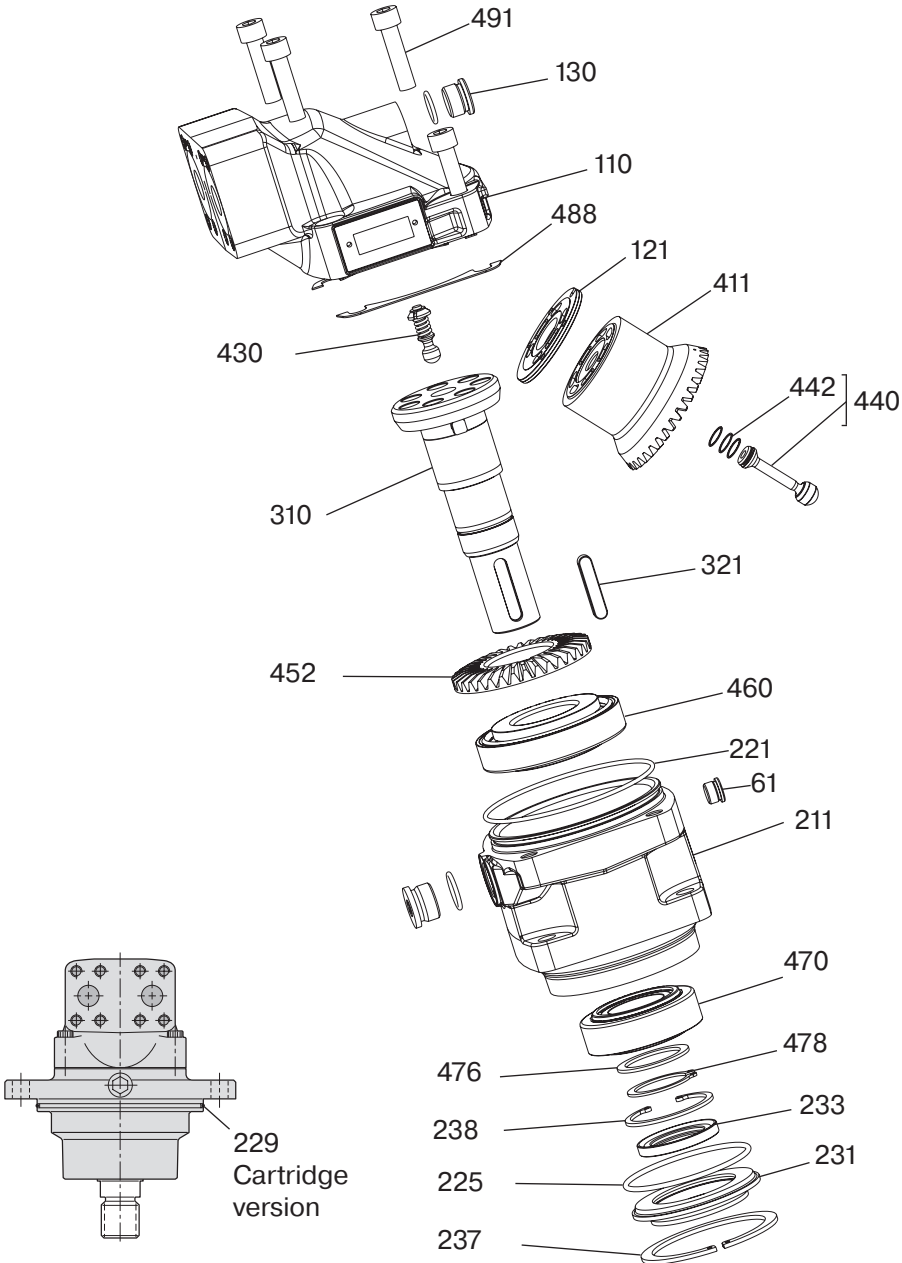
There are also cavitation marks on the cylinder barrel.

Cavitation



From the same cylinder barrel there are severe cavitation marks in the cylinder bores due to high speed.

Split view F10



Parts specification

Item	Description
61	Hex Socket Plug Assy
110	Barrel housing
121	Valve Plate (repair kit)
130	Hex Socket Plug Assy
211	Bearing Housing
221	O-Ring (seal kit)
225	O-Ring (seal kit)
229	O-ring (seal kit)
231	Seal Carrier
233	Shaft Seal (seal kit)
237	Retaining Ring (seal kit)
310	Shaft
321	Key (key kit)
411	Cylinder Barrel Assy (repair kit)
430	Barrel Support
440	Piston Assy (repair kit)
452	Ring Gear
460	Tap Roller Bearing (bearing kit)
470	Tap Roller Bearing (bearing kit)
476	Spacer Washer (bearing kit)
478	Retaining Ring (bearing kit)
488	Shims (shim kit)
491	Hex Screw (repair kit)

F10-030

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VST112X1EDVITCF
110	3721864	Barrel Housing Assy Type F	1	
110	3721863	Barrel Housing Assy Type S	1	
130		Hex Socket Plug for S housing	1	8 HP50N-S
130		Hex Socket Plug for F housing	1	VST118X1,5EDVITCF
211	3784481	Bearing Housing Type C	1	Require item 61
211	3788317	Bearing Housing Type I	1	Require item 61
211	3788323	Bearing Housing Type S	1	Require item 61
211	3788320	Bearing Housing Type T	1	Require item 61
231	3797194	Seal Carrier	1	
Rotating parts				
310	3799648	Shaft type C	1	
310	3799638	Shaft type D	1	
310	3799632	Shaft type K	1	Require flat key
310	3799644	Shaft type P	1	Require flat key
310	3799634	Shaft type S	1	
310	3799640	Shaft type T	1	Require flat key
321	3724437*	Flat Key for K and P shaft	1	
321	3724449*	Flat Key for T shaft	1	
430	3724477**	Barrel Support	1	
452	3791927	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits

3793493 Sealing kit type V FPM

Repair Spare part Kit

3724220 Type A (Motor)

3724221 Type L (CCW pump)

3724222 Type R (CW pump)

Bearing spare part kit

3723971 Bearing kit

Shim kit

3721330 Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

*Kit contain 100 pcs, **Kit contain 20 pcs

F10-037

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VST112X1EDVITCF
110	3721864	Barrel Housing Assy Type F	1	
110	3721863	Barrel Housing Assy Type S	1	
130		Hex Socket Plug for S housing	1	8 HP50N-S
130		Hex Socket Plug for F housing	1	VST118X1,5EDVITCF
211	3784481	Bearing Housing Type C	1	Require item 61
211	3788317	Bearing Housing Type I	1	Require item 61
211	3788323	Bearing Housing Type S	1	Require item 61
211	3788320	Bearing Housing Type T	1	Require item 61
231	3797194	Seal Carrier	1	
Rotating parts				
310	3799648	Shaft type C	1	
310	3799638	Shaft type D	1	
310	3799632	Shaft type K	1	Require flat key
310	3799644	Shaft type P	1	Require flat key
310	3799634	Shaft type S	1	
310	3799640	Shaft type T	1	Require flat key
321	3724437*	Flat Key for K and P shaft	1	
321	3724449*	Flat Key for T shaft	1	
430	3724477**	Barrel Support	1	
452	3791927	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits	
3793493	Sealing kit type V FPM
Repair Spare part Kit	
3724223	Type A (Motor)
3724224	Type L (CCW pump)
3724225	Type R (CW pump)
Bearing spare part kit	
3723971	Bearing kit
Shim kit	
3721330	Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

*Kit contain 100 pcs, **Kit contain 20 pcs

F10-056

Pos	Part No	Description	Qty	Remarks
Housing parts				
61	3724205	Hex Socket Plug M12*1	1	VST112X1EDVITCF
110	3798203	Barrel Housing Assy Type F	1	
110	3798204	Barrel Housing Assy Type S	1	
130		Hex Socket Plug for S housing	1	8 HP50N-S
130		Hex Socket Plug for F housing	1	VST118X1,5EDVITCF
211	3780330	Bearing Housing Type C	1	Require item 61
211	3799967	Bearing Housing Type I	1	Require item 61
211	3780130	Bearing Housing Type S	1	Require item 61
231	3796201	Seal Carrier	1	

Rotating parts

310	3799455	Shaft type C	1	
310	3799457	Shaft type D	1	
310	3799451	Shaft type K	1	Require flat key
310	3799453	Shaft type S	1	
310	3799459	Shaft type T	1	Require flat key
321	3724451**	Flat Key for K shaft	1	
321	3724438**	Flat Key for T shaft	1	
430	3724474***	Barrel Support	1	
452	3791589	Ring Gear	1	

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

For other parts please contact Parker Hannifin**Seal kits**

3793495* Sealing kit type V FPM

Repair Spare part Kit

3724226 Type A (Motor)

3724227 Type L (CCW pump)

3724228 Type R (CW pump)

Bearing spare part kit

3723972 Bearing kit

Shim kit

3721331 Shims kit

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

* The kit contain 1 pcs O-ring for F10-80,

Kit contain 100 pcs, *Kit contain 20 pcs

F10-080

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VST112X1EDVITCF
110	3722721	Barrel Housing Assy Type F	1	
110	3722723	Barrel Housing Assy Type S	1	
130		Hex Socket Plug S housing	1	10 HP50N-S
130		Hex Socket Plug F housing	1	VST122X1.5EDVITCF
211	3780331	Bearing Housing Type C	1	Require item 61
211	3780127	Bearing Housing Type I	1	Require item 61
211	3780124	Bearing Housing Type S	1	Require item 61
231	3796201	Seal Carrier	1	
Rotating parts				
310	3799686	Shaft type C	1	
310	3799688	Shaft type D	1	
310	3799682	Shaft type K	1	Require flat key
310	3799684	Shaft type S	1	
310	3799690	Shaft type T	1	Require flat key
321	3724445**	Flat Key for K shaft	1	
321	3724438**	Flat Key for T shaft	1	
430	3724478***	Barrel Support	1	
452	3799822	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits

3793495* Sealing kit type V FPM

Repair Spare part Kit

3724229 Type A (Motor)

3724230 Type L (CCW pump)

3724231 Type R (CW pump)

Bearing spare part kit

3723973 Bearing kit

Shim kit

3721332 Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

* The kit contain 1 pcs O-ring for F10-56

Kit contain 100 pcs, *Kit contain 20 pcs

F10-090

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VSTI12X1EDVITCF
110	3724001	Barrel Housing Assy Type F	1	
110	3724000	Barrel Housing Assy Type S	1	
130		Hex Socket Plug S housing	1	10 HP5ON-S
130		Hex Socket Plug F housing	1	VSTI22X1.5EDVITCF
211	3780327	Bearing Housing Type C	1	Require item 61
211	3780813	Bearing Housing Type I	1	Require item 61
211	3780812	Bearing Housing Type S	1	Require item 61
231	3796200	Seal Carrier	1	

Rotating parts

310	3780671	Shaft type C	1	
310	3780673	Shaft type D	1	
310	3780667	Shaft type K	1	Require flat key
310	3780669	Shaft type S	1	
310	3780675	Shaft type T	1	Require flat key
310	3780677	Shaft type U	1	
321	3724448*	Flat Key for K shaft	1	
321	3724440*	Flat Key for T shaft	1	
430	3724475**	Barrel Support	1	
452	3787847	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits

3793499 Sealing kit type V FPM

Repair Spare part Kit

3724232 Type A (Motor)

3724233 Type L (CCW pump)

3724234 Type R (CW pump)

Bearing spare part kit

3723974 Bearing kit

Shim kit

3721333 Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

*Kit contain 100 pcs, **Kit contain 20 pcs

F10-107

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VSTI12X1EDVITCF
110	3724001	Barrel Housing Assy Type F	1	
110	3724000	Barrel Housing Assy Type S	1	
130		Hex Socket Plug S housing	1	10 HP5ON-S
130		Hex Socket Plug F housing	1	VSTI22X1.5EDVITCF
211	3780327	Bearing Housing Type C	1	Require item 61
211	3780813	Bearing Housing Type I	1	Require item 61
211	3780812	Bearing Housing Type S	1	Require item 61
231	3796200	Seal Carrier	1	

Rotating parts

310	3780671	Shaft type C	1	
310	3780673	Shaft type D	1	
310	3780667	Shaft type K	1	Require flat key
310	3780669	Shaft type S	1	
310	3780675	Shaft type T	1	Require flat key
310	3780677	Shaft type U	1	
321	3724448*	Flat Key for K shaft	1	
321	3724440*	Flat Key for T shaft	1	
430	3724475**	Barrel Support	1	
452	3787847	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits

3793499 Sealing kit type V FPM

Repair Spare part Kit

3724235 Type A (Motor)

3724236 Type L (CCW pump)

3724237 Type R (CW pump)

Bearing spare part kit

3723974 Bearing kit

Shim kit

3721333 Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

(1 pcs on each side)

*Kit contain 100 pcs, **Kit contain 20 pcs

F10-125

Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VSTI12X1EDVITCF
110	3709914	Barrel Housing Assy Type F	1	
110	3794372	Barrel Housing Assy Type S	1	
130		Hex Socket Plug S housing	1	12 HP5ON-S
130		Hex Socket Plug F housing	1	VSTI22X1.5EDVITCF
211	3781449	Bearing Housing Type C	1	Require item 61
211	3781447	Bearing Housing Type I	1	Require item 61
211	3781448	Bearing Housing Type S	1	Require item 61
231	3796182	Seal Carrier	1	
Rotating parts				
310	3783323	Shaft type C	1	
310	3783322	Shaft type D	1	
310	3783321	Shaft type K	1	Require flat key
310	3783320	Shaft type S	1	
310	3783324	Shaft type T	1	Require flat key
321	3724446*	Flat Key for K shaft	1	
321	3724439*	Flat Key for T shaft	1	
430	3724476**	Barrel Support	1	
452	3783319	Ring Gear	1	

For other parts please contact Parker Hannifin

Seal kits

3798092 Sealing kit type V FPM

Repair Spare part Kit

3724238 Type A (Motor)

3724239 Type L (CCW pump)

3724240 Type R (CW pump)

Bearing spare part kit

3723975 Bearing kit

Shim kit

3721334 Shims kit

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

Repair spare part kit contain:

Valve plate pos: 121

Cylinder Barrel pos: 411

Pistons pos: 440 (7 pcs)

Hex Screws pos: 491 (4 pcs)

Bearing spare part kit contain:

Tap Rol Bearing pos: 460, 470

Spacer pos: 476

Retaining rings pos: 478

Shim kit contain:

Shims pos: 488

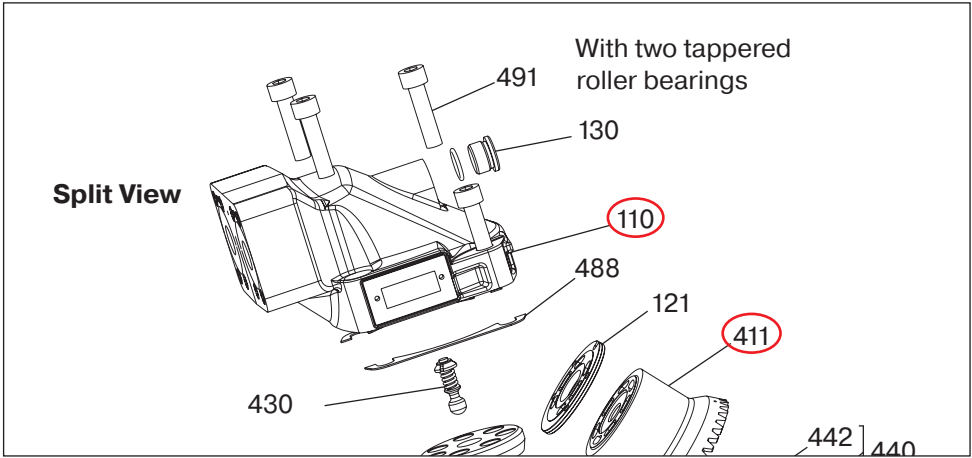
(1 pcs on each side)

*Kit contain 100 pcs, **Kit contain 20 pcs

How to Select F10 Spare Parts

How to Properly Select a F10 Spare Part

The first page of spare parts bulletin will display a “split view” drawing with the parts identified with numbers shown in red below.



For our example we will be using the description F10-080-AS-SV-T-000-0000-P0 which has the part number 3724422 associated with it. The part number is the number used to order the motor and takes precedence over the description.

F10	—		—			—			—		—		—		—	
F10		Frame size		Function I	Main ports		Mounting flange	Shaft seal		Shaft		Version number		Option		Option

How to Select F10 Spare Parts

The pages we may need to use are the “split view” and the parts list for the particular motor size. In our example **F10-080-AS-SV-T-000-0000-P0**, “**F10-080**” is the size of the motor, and we need to turn to that particular page.

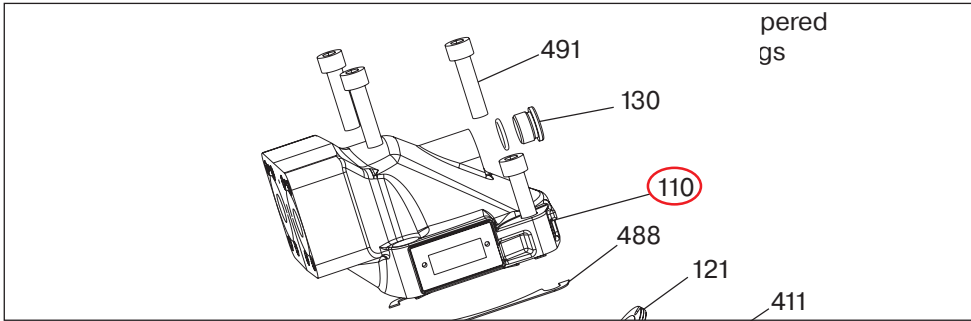
MSG30-5524-M1/UK			Service/Spare Parts Manual	
Spare Parts			F10-080	
<hr/>				
F10-080				
Pos	Part No	Description	Qty	Remarks

The columns are defined as:

- Pos. – The number from the split view that identifies the part
- Part Number – The number needed to purchase that part
- Description – The description of the part and the matching model code character
- Quantity – The number of that particular part you need to order for one unit
- Remarks – These can give you extra information to define the part

For motor F10-080-AS-SV-T-000-0000-P0 we need the barrel housing, shaft and shaft seal

For the barrel housing we can find the part a couple of ways. If there is visual recognition of the part, then the item number can be found by looking at the “split view” of the motor and locating the item number. In this case it is number 110.



How to Select F10 Spare Parts

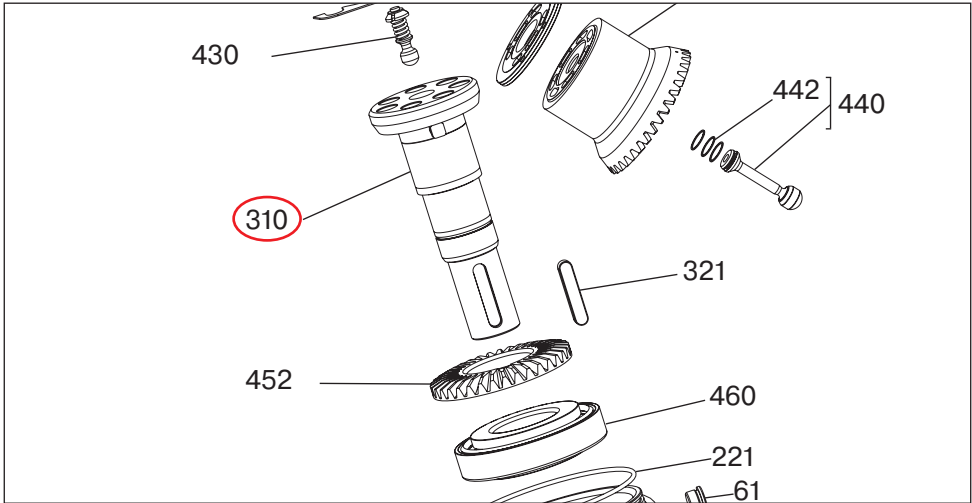
Pos	Part No	Description	Qty	Remarks
Housing parts				
61		Hex Socket Plug M12*1	1	VSTI12X1EDVITCF
110	3798203	Barrel Housing Assy Type F	1	
110	3722723	Barrel Housing Assy Type S	1	
130		Hex Socket Plug for S housing	1	8 HP50N-S
130		Hex Socket Plug for F housing	1	VSTI18X1,5EDVITCF

The other way is to know the name of the part, barrel housing assy (red type), and look at the parts listing for the description.

The red S in the description matches our model number F10-080-AS-SV-T-000-0000-P0 and has part number 3722723 (in green), quantity 1. Note that the Hex socket plug is not included, should be ordered from Parker Fitting division (in blue)

The shaft is the next item to be found. Looking for it visually in the “split view” we can determine that the shaft is item number 310.

We can refer to the parts list for the name of the part, shaft (red type), and look at the parts listing for the description.



Pos	Part No	Description	Qty	Remarks
310	3799451	Shaft type K	1	Require flat key
310	3799453	Shaft type S	1	
310	3799690	Shaft type T	1	Require flat key
321	3724445**	Flat Key for K shaft	1	

The blue T in the description matches our model number F10-080-AS-SV-T-000-0000-P0 and has part number 3799690 (in green), quantity 1.

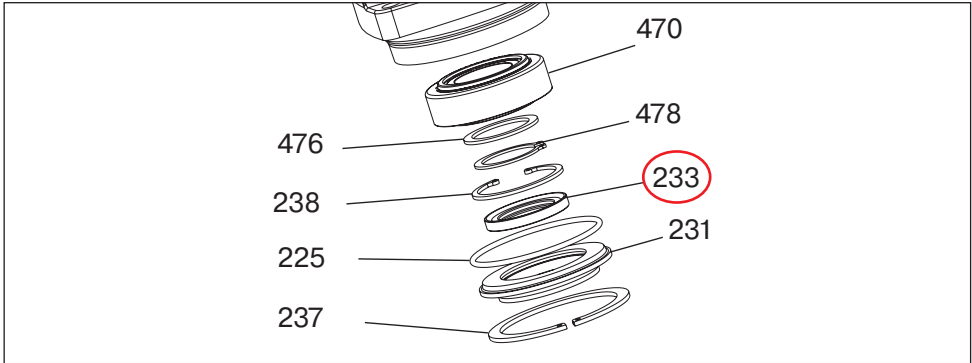
Pos	Part No	Description	Qty	Remarks
321	3724445*	Flat Key for K shaft	1	
321	3724438*	Flat Key for T shaft	1	

The blue T in the description matches our model number F10-080-AS-SV-T-000-0000-P0 and has part number 3724438 (in green), quantity 1.

The shaft seal is the next item to be found. Looking for it visually in the “split view” we can determine that the shaft is item number 233.

We can refer to the parts list for the name of the part, shaft seal item 233 (red circle), and look at the parts listing for the description.

Some parts are not sold as separate items and will only be available in kits.



How to Select F10 Spare Parts

Seal kits

3793495* Sealing kit type V FPM

Seal kit contain:

O-rings pos: 221, 225, 229

Shaft seal pos: 233

Retaining rings pos: 237, 238

In the Kits section, we need to look at the right to determine which parts is required based on pos number. In this example we would like to get pos 233, shaft seal. Then it's only available in a seal kit and not sold as separate item. Some kits can be sold with MOQ.

We are looking for a shaft seal item 233, and there appears to be 2 seal kits to chose between. The model code calls out a V, F10-080-AS-SV-T-000-0000-P0, and it matches the seal kit with the V so our part number must be 3793495.

If your requested part is not listed in Spare part list, always consult with Parker Division

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- ISO 13849-1:2015
- SS-EN ISO 4413:2010

so that the machines in which the products are incorporated meet the essential health and safety requirements.

Confirmations for components to be proven component, e. g. for validation of hydraulic systems, can only be provided after an analysis of the specific application, as the fact to be a proven component mainly depends on the specific application.

Christian Jäger

General Manager

Pump & Motor Division Europe

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