

## MJP 650 Series - Shaft Seal Mk1

### Assembly

Pos	Qty	Part No	Description
1	1		<b>Shaft seal</b>
		34028	(complete seal assy w/o wear sleeve - to shaft diameter 115 mm )
		34032	(complete seal assy- to shaft diameter 115 mm )
		34020	(complete seal assy- to shaft diameter 120 mm )
		34037	(complete seal assy- to shaft diameter 130 mm - ref. MJP 750 Shaft Seal Mk4, page 25 )
2*	3		<b>Radial Seal</b>
		34034	(to shaft w/o wear sleeve)
		34038	(to wear sleeve WS-115 and WS-120)
3			<b>Wear sleeve</b>
	1	WS-115	(to 115 mm shaft)
		WS-120	(to 120 mm shaft)
4	2	32081	<b>O-ring</b>
	2	32108	<b>O-ring</b>
5	1	50311	<b>Shaft seal hose</b>
6	4	HC - 168	<b>Hose Clamp</b> (to Shaft Seal Hose)
7	1	34060	<b>Shaft Seal Housing 650</b> (incl. bearing and lock ring 33103)
8	6	22000	<b>Lockwasher (set)</b>
9	6	21016	<b>Socket head screw</b>
10	1	23100	<b>Thordon Bearing</b>

## MJP 650 Series - Pump Unit Mk1

### Assembly

Pos	Qty	Part No	Description
2*	1	80253	<b>Impeller</b>
3	2	32041	<b>O-ring</b>
4	6	21043	<b>Socket head screw</b>
5	6	22000	<b>Lock washer</b>
6	1	24103	<b>Lock ring</b>
7	1	32040	<b>O-ring</b>
8	1	32046	<b>O-ring</b>
9	24	21074	<b>Socket head screw</b>
10	24	22001	<b>Lock washer</b>
11	2	51010	<b>Lub oil pipe</b>
13	6	32059	<b>O-ring</b> (3 pcs on each pipe)
16*	1	32545	<b>Diffuser</b>
17	24	21026	<b>Hex head screw</b>
18	24	22002	<b>Lock washer</b>
19	2	32045	<b>O-ring</b>
20	1	32046	<b>O-ring</b>
21	22	21029	<b>Socket head screw</b>
22	22	22001	<b>Lock washer</b>
23	24	21011	<b>Hex head screw</b>
24	24	22001	<b>Lock washer</b>
25	1	32057	<b>O-ring</b>
		60006	<b>Assembly Kit 650 Mk1 - Seal exchange</b> (Needed bolts, washers and o-rings for reassembly after seal change)

# MJP 650 Series - Pump Unit Mk3

## Assembly

Pos	Qty	Part No	Description
2*	1	80254	Impeller
3	2	32041	O-ring
6	2	21063	Socket Head Screw
7	1	32102	O-ring
8	1	32046	O-ring
9	24	21069	Socket head screw
10	24	22002	Lock washer
11a	1	51016 S	Lub oil pipe, short
11b	1	51016 L	Lub oil pipe, long
12	2	32101	O-ring (1 pc on each pipe)
13	6	32059	O-ring (3 pcs on each pipe)
21	2	21042	Hex head screw
15	2	22000	Lock washer
16*	1	32545	Diffuser
17	24	21026	Hex head screw
18	24	22002	Lock washer
19	1	32088	O-ring
20	1	32088	O-ring
21	11	21018	Socket head screw
22	11	22001	Lock washer
23	24	21011	Hex head screw
24	24	22001	Lock washer
		60007	Assembly Kit 650 Mk2 - Seal exchange (Needed bolts, washers and o-rings for reassembly after seal change)

## MJP 650 Series - Hub Unit Mk1

### Assembly

Pos	Qty	Part No	Description
1	1	44162	<b>Coupling</b>
2	1		<a href="#">Fits early model Disc Pack part no 42031:</a>
		21032 B	<b>Coupling Bolts</b> (set of 8 pcs)
		23043	<b>Coupling Nuts</b> (set of 4 pcs)
3	1		<a href="#">Fits new model Disc Pack part no 42036:</a>
		21032 A	<b>Coupling Bolts</b> (set of 8 pcs)
		21090	<b>Coupling Nuts</b> (set of 4 pcs)
4, 5	1	42036	<b>Disc pack</b> (incl. bolts, nuts and washers)

<b>26</b>	<b>1</b>	<b>43164</b>	<b>Exchange Bearing Unit - tuned and ready for quick exchange - containing all parts from pos 6 to 21</b>
6	1	44203	<b>Flange</b>
7	8	21049	<b>Socket Head Screw</b>
8	8	22002	<b>Lock washer</b>
9	1	34002	<b>Mechanical Seal</b> New Refurbished (customer must return old seal)
10	1	44133	<b>Lid</b>
11	8	21016	<b>Socket Head Screw</b>
12	8	22000	<b>Lock washer</b>
13	1	32044	<b>O-ring</b>
14	1	32043	<b>O-ring</b>
15	1	44212	<b>Stub Shaft</b>
16	1	43111	<b>Conical Roller Bearing</b>
17	1	44173	<b>Bearing Housing</b>
18	2	33011	<b>Plug for disassemble</b>
19	1	43112	<b>Spherical Roller Bearing</b>
20	1	43173	<b>Support washer</b>
21	1	23042	<b>Nut</b>

22	1	44103	<b>Cap</b>	
23	8	21016	<b>Socket head screw</b>	(to early model cap)
24	11	22000	<b>Lock washer</b>	
25	2	32042	<b>O-ring</b>	

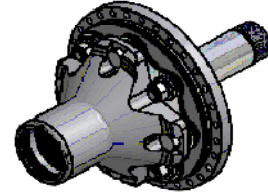
## MJP 650 Series - Hub Units

Model	Manufactured
650 Mk1	1988 - 2000
650 Mk2	2001-2005
650 Mk3	From 2005

## MJP 650 Series - Hub Unit Mk2

### Coupling

Pos	Qty	Part No	Description
1	1	42027	Disc pack (incl. bolts, nuts and washers)
2	1	44163	Coupling
3	1	44151	Flanged shaft
4	1	22005	Coupling Washers (set of 8 pcs)
5	1	23050	Coupling Nuts (set of 8 pcs)
6	1	21036	Coupling Bolts (set of 8 pcs)
7	1	24123	Lock Ring (split)
8	1	32102	O-ring
9	6	21063	Screw
10	6	22000	Lock Washer
11	1	43174	Support Washer
12	1	23024	Nut KMT



### Hub

Pos	Qty	Part No	Description
1	12	22000	Lock washer
2	1	44174	Bearing Housing
3	1	43111	Conical Roller Bearing
4	1	43112	Spherical Roller Bearing
5	1	43105	OK Coupling
6	1	43134	Lid
7	12	21003	Socket Head Screw
8	1	-	Sealing Strip
9	1	-	Seat
10	1	33999	Mechanical Seal Housing
11	1		Mechanical Seal
		34004	New
		34004R	Refurbished (customer must return old seal)
12	4	21000	Socket head screw
13	1	43175	Support Washer
14	1	23042	Nut KMT
15	1	32044	O-ring
16	1	43189	Spacer Ring
17	1	32099	O-ring
18	2	33011	Plug for disassemble

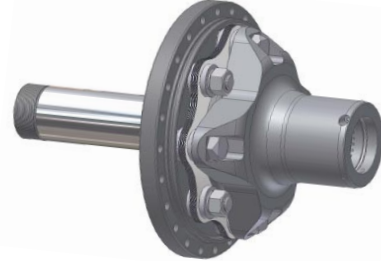


**43165 Exchange Bearing Unit - tuned and ready for quick exchange**  
 - containing all parts from pos 1 to 18  
 To MJP 650 Series - Hub Unit Mk2 and Mk3

## MJP 650 Series - Hub Unit Mk3

### Coupling

Pos	Qty	Part No	Description
1	1	42027	Disc pack (incl. bolts, nuts and washers)
2	1	44163	Coupling
3	1	44151	Flanged shaft
4	1	22005	Coupling Washers (set of 8 pcs)
5	1	23050	Coupling Nuts (set of 8 pcs)
6	1	21036	Coupling Bolts (set of 8 pcs)
7	2	21063	Screw
8	1	32062	O-ring
9	2	22000	Lock Washer
10	1	23024	Nut KMT
11	1	43174	Support Washer



### Hub

Pos	Qty	Part No	Description
1	12	22000	Lock washer
2	1	44174	Bearing Housing
3	1	43111	Conical Roller Bearing
4	1	43112	Spherical Roller Bearing
5	1	43105	OK Coupling
6	1	43134	Lid
7	12	21003	Socket Head Screw
8	1	-	Sealing Strip
9	1	-	Seat
10	1	33999	Mechanical Seal Housing
11	1		Mechanical Seal
		34004	New
		34004R	Refurbished (customer must return old seal)
12	4	21000	Socket head screw
13	1	43175	Support Washer
14	1	23042	Nut KMT
15	1	32044	O-ring
16	1	43189	Spacer Ring
17	1	32099	O-ring
18	2	33011	Plug for disassemble

## MJP 650 - Steering Unit Mk2

### Assembly

Pos	Qty	Part No	Description
1	1	32544	Nozzle
2	1	-	Steering nozzle
3	1	32540	Visor
4	1	32543	Bucket
5	2	32541	Link arm (sold in pairs)
6	2	24083	Pin shaft (link arm/visor)
6	2	24083	Pin shaft (link arm/bucket)
7	2	24093	Pin shaft (bucket)
8	2	24093	Pin shaft (visor)
9	2	24085	Pin shaft (steering nozzle)
11	4	24091	Pin shaft (steering cyl.)
11	4	24091	Pin shaft (reversing cyl.)
12	2	35039	Bushing (bucket)
14	2	35023	Bushing (steering nozzle)
16	4	35020	Bushing (link arm)
18	2	35039	Bushing (visor)

## MJP 650 - Steering Unit Mk3

### Assembly

Pos	Qty	Part No	Description	
1	1	32544	Nozzle	
2	1	-	Steering nozzle	
3	1	32540	Visor	
4	1	32543	Bucket	
5	2	650-1207	Link arm	(sold in pairs)
6	2	24072	Pin shaft	(link arm/visor)
6	2	24072	Pin shaft	(link arm/bucket)
7		-	Pin shaft	(bucket)
8	2	24070	Pin shaft	(visor)
9	2	24121	Pin shaft	(steering nozzle)
11	4	24069	Pin shaft	(steering cyl.)
11		24261	Washer	(reversing cyl.)
12	2	35021	Bushing	(bucket)
14	2	35023	Bushing	(steering nozzle)
16	4	35020	Bushing	(link arm)
18	2	35022	Bushing	(visor)

32308 Pin Shaft Set - 650 Mk1  
 32310 Pin Shaft Set - 650 Mk2  
 32312 Pin Shaft Set - 650 Mk3  
 32314 Pin Shaft Set - 650 Mk4

32208 Bushing Set - 650 Mk1  
 32210 Bushing Set - 650 Mk2  
 32212 Bushing Set - 650 Mk3  
 32214 Bushing Set - 650 Mk4

## MJP 650 Series - Steering Unit

Model	Manufactured	Description
Mk 1	1986 - 1989	
Mk 2	1989 - 1992	
Mk 3	1992 - 1995	
Mk 4	1995 -	
-		Prices to 650 Mk 1 on request
-		Old models can be upgraded with newer steering parts. Contact MJP for information.

## MJP 650 - Steering Unit Mk 4

### Assembly

Pos	Qty	Part No	Description	
1	1	32544	Nozzle	
2	1	32542	Steering nozzle	
3	1	32540	Visor	
4	1	32543	Bucket	
5	2	32541	Link arm	
6	2	24068	Pin shaft	(link arm/visor)
6	2	24068	Pin shaft	(link arm/bucket)
7	2	24066	Pin shaft	(bucket)
8	2	24065	Pin shaft	(visor)
9	2	24067	Pin shaft	(steering nozzle)
11	4	24069	Pin shaft	(steering cyl.)
11	4	24069	Pin shaft	(reversing cyl.)
11a		24261	Washer	(reversing cyl.)
12	2	35062	Bushing	(bucket)
13	2	24243	Securing plate SS	(to be welded)
14	2	35060a	Split Bushing	(steering nozzle)
14	2	35060b	Split Bushing	(steering nozzle)
15	2	24245	Securing plate	(to be welded)
16	4	35063	Bushing	(link arm)
17	4	24244	Securing plate SS	(to be welded)
18	2	35061	Bushing	(visor)
19	2	24243	Securing plate SS	(to be welded)
20	2	23080	Cotter pin	(steering cyl.)
20	4	23080	Cotter pin	(reversing cyl.)

## Hydraulic Hose Arrangement

### MJP 650 - Before 1995

Pos	Qty	Part No	Description		
1	1	51351-A	Hydraulic Hose (Reversing Cyl.)	90° - 90°	L=380
2	1	51351-A	Hydraulic Hose (Reversing Cyl.)	90° - 90°	L=470
3	2	51352-B	Hydraulic Hose (Reversing Cyl.)	0° - 90°	L=1250
4	4	51352-A	Hydraulic Hose (Steering Cyl.)	0° - 90°	L=500
5	2	51353-B	Protection Hose 3/8" (Reversing Cyl.)	open - 90°	L=2000
6	2	51353-A	Protection Hose 3/8" (Steering Cyl.)	open - 90°	L=1200
7	18	40602	Connector (male/male)	1/2" - 1/2"	
8	18	51203	Bonded seal	1/2"	
9	2	40602	Connector (male/male)	1/2" - 1/2"	
10	3	52017	Hydraulic connection block 1/2"		

# Hydraulic Hose Arrangement

MJP 650 - From 1995

Pos	Qty	Part No	Description		
1	1	51351-A	Hydraulic Hose (Reversing Cyl.)	90° - 90°	L=500
2	1	51351-A	Hydraulic Hose (Reversing Cyl.)	90° - 90°	L=500
3	2	51352-B	Hydraulic Hose (Reversing Cyl.)	0° - 90°	L=1250
4	4	51352-A	Hydraulic Hose (Steering Cyl.)	0° - 90°	L=500
		51352-A	To Mk3 only - length is different		L=600
5	2	51353-B	Protection Hose 3/8" (Reversing Cyl.)	open - 90°	L=2050
6	2	51353-A	Protection Hose 3/8" (Steering Cyl.)	open - 90°	L=1250
7	18	40602	Connector (male/male)	1/2" - 1/2 "	
8	18	51203	Bonded seal	1/2"	
9	2	40602	Connector (male/male)	1/2" - 1/2 "	
10	3	52017	Hydraulic connection block 1/2"		

All 650 Series hoses are 1/2" unless specified