INSTRUCTIONS FOR USE

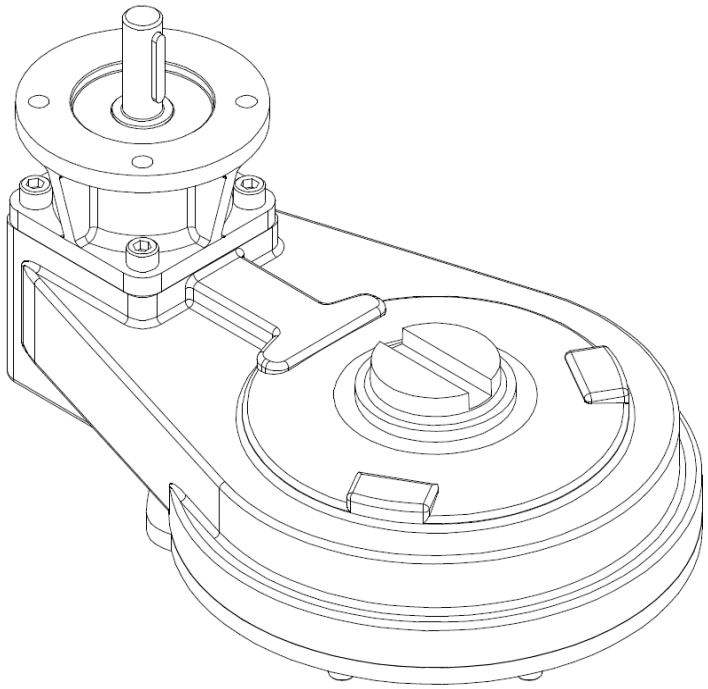
INPUT REDUCERS FOR GEAR OPERATORS

IR /AS/W100/MPR Range Specification:

Installation, Operating and Maintenance Instructions:

Assembly and Dismantling Instructions:

Spare Parts List and Recommended 5 Years Holding List:



ROTORK GEARS
REGINA HOUSE
RING ROAD
BRAMLEY
LEEDS
LS13 4ET
WEST YORKSHIRE
ENGLAND

ROTORK GEARS IR and AS SPUR RANGE SPECIFICATION

Component	Material Specification
Gearcase	Cast Iron as standard, optional SG Iron, Carbon Steel or Stainless Steel.
Endplate	SG iron as standard, optional cast Iron, Carbon Steel or Stainless Steel.
Input Housing	Cast Iron as standard, optional SG Iron, Carbon Steel or Stainless Steel.
Output Gear	SG Iron or carbon steel
Pinion gear and shaft	Carbon steel as standard, optional Stainless Steel.
Connecting Gearbox Housing	Cast Iron as standard, optional SG Iron, Carbon Steel or Stainless Steel.
Screws	High Tensile Steel Metric Standard to BS3692 & 4168 as standard, optional Stainless Steel.
Bearings	Input Shaft – Ball type and oilite bush on some IR models. Output – Ball type
Finish	PE3 Pennine Primer (Standard). Primer and Enamel Gloss (Optional). Other finishes available on request.
Lubricant	RENOLIT CL-X2 (Standard) max temp 95°C: Flash point > 100°C RENOLIT LX-EP2 (High temp) max temp 160°C: F lash point > 100°C CASSIDA EPS 2 (Food) max temp 177°C: Flash point > 100°C RENOLIT MO2 (Graphite) max temp 120°C: Flash point > 100°C MOV LL (Nuclear) max temp 150 °C: Flash point > 180°C
Seals	Nitrile (Standard) max temp 150°C: Ignition temperature > 300°C Viton (High temp/ Nuclear) max temp 200°C: Ignition temperature > 315°C Fluorosilicone (Low temp) max temp 225°C Ignition temperature > 300°C Silicone sealant max temp 260°C: Ignition temperature > 450°C

Gearbox Detail	Gearbox Specification
Input reducer design Life	Indicated on primary gearbox specification sheet
Gears	Designed basically to BS436.
Input reducer type	Indicated on the nameplate of the primary gearbox

Gearbox ratio	Combined ratio Indicated on the nameplate of the primary gearbox
Maximum output torque of combined gearbox	Indicated in the Rotork Gears catalogue for the combined gearbox
Maximum thrust of the combined gearbox	Only applicable for bevel and spur primary gearboxes and Indicated in the Rotork Gears catalogue
Input reducer duty specification	Indicated on the nameplate of the primary gearbox
Nameplate Explosion Marking and Category	According to 94/9/EC and indicated on the nameplate of the primary gearbox
Maximum speed for the input shaft	350 rpm
Maximum bending moment on the input flange	F10: 108Nm F14: 139Nm F16: 225Nm F25: 763Nm F30: 817Nm
Maximum operating temperature	Indicated on the nameplate of the primary gearbox
Combined Gearbox weight	Indicated on the nameplate of the primary gearbox

INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS FOR IR AND AS INPUT REDUCERS

The Rotork Gears IR and AS Spur Range Specification sheets indicate the materials of construction and information for putting the equipment into service. The primary gearbox is marked according to 94/9/EC with the temperature class and explosion group on the equipment and this shall be observed when installing and operating the equipment. The user alone is responsible for the appropriate use of the gearbox in consideration of the basic conditions existing at the plant.

These ranges of input reducer gearboxes are supplied connected to the primary gearbox to suit the order requirements.

Refer to the installation and operating instructions of the primary gearbox to mount the gearbox to the valve

If an electric actuator is fitted to the input reducer, a suitable input adaptor will have been supplied. After mounting the actuator to the combined gearbox / input reducer assembly, the limit and torque switch settings must be made in accordance with the manufacturer's instructions. The maximum permitted bending moment on the input adaptor of the gearbox is indicated on the gearbox specification sheet for the input reducer.

HANDLING

Combined valve, actuator and gearbox must **NOT** be slung from the gearbox.

MAINTENANCE

All gear cavities are lubricated and sealed for life and the type of grease and seals used within the gearbox is indicated on the nameplate and shown in the material specification. The required maintenance intervals depend on the respective application and will therefore have to be determined by the user dependent on the conditions of use. Annual inspection of the gearbox is recommended, but under normal operating conditions no maintenance is required for the gearbox, but should the valve be taken out of service for overhaul, the gearbox input flange or the end plate may be removed and the grease renewed. The flange or end plate must be sealed using silicone sealant on re-assembly, unless fitted with an O ring. Below is a table for the recommended tightening of screws.

	HEXAGON HEAD		SOCKET HEAD		SOCKET CAP WITH NORDLOCK WASHER		DURLOK	
SCREW SIZE	TORQUE TIGHTNESS (lbs ft)	TORQUE TIGHTNESS (Nm)	TORQUE TIGHTNESS (lbs ft)	TORQUE TIGHTNESS (Nm)	TORQUE TIGHTNESS (lbs ft)	TORQUE TIGHTNESS (Nm)	TORQUE TIGHTNESS (lbs ft)	TORQUE TIGHTNESS (Nm)
M4			2 - 3	3 - 4				
M5			4 - 6	5 - 8				
M6	4 - 6	5 - 8	7 - 10	9 -13				
M8	10 - 15	13 - 20	16 - 24	21 - 32	18 - 27	24 - 36	30 - 45	40 - 60
M10	19 - 29	26 - 39	32 - 47	42 - 63	35 - 52	47 - 71	57 - 86	77 - 115
M12	34 - 51	46 - 68	55 - 82	74 - 110	60 - 91	82 - 124	101 - 151	135 - 203
M16	84 -1 26	113 - 169	136 - 204	182 - 247	148 - 221	200 - 300	246 - 370	330 - 496
M20	170 - 255	231 - 364	266 - 400	357 - 535	289 - 434	392 - 588	476 - 713	638 - 956
M24	294 - 441	399 - 598	460 - 690	616 - 924	502 - 752	680 - 1020	*COPY OF FQ 032*	

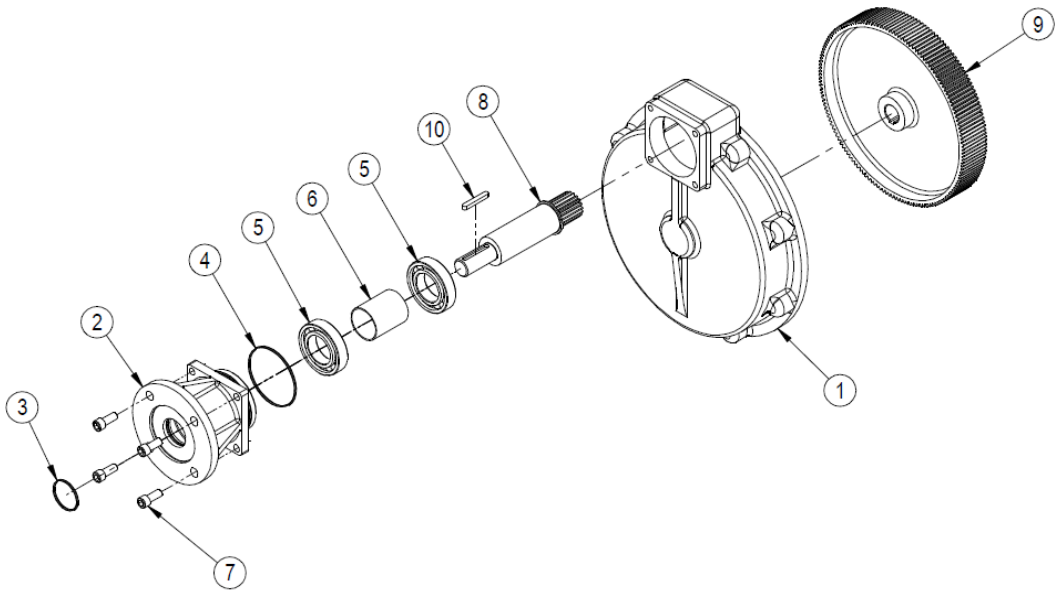
NB. All thrust elements and bearing cavities must be re-greased and refitted in the correct order.

SPARES

Spare parts must be selected from the spare parts lists and a recommended spares holding for 5 years is shown on the spare parts list.

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF IR1 AND IR2 INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.
2. **SCOPE:** Rotork Gears range of IR1 and IR2 input reducers.
3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears IR input reducers.
4. **PROCEDURE**: Refer to spare parts list for item numbers.



EXPLODED VIEW FOR IR1 AND IR2 INPUT REDUCER

4.1 Dismantling

4.1.1 Remove the key (10) from the input shaft (8)

4.1.2 Remove the 4 off screws (7), which secure the input flange (2) to the gearcase (1)

4.1.3 Remove the input flange from the gearcase complete with bearings (5), spacer (6) and input shaft

4.1.4 Remove the input shaft, bearings and spacer from the input flange.

4.1.5 Remove the 'o' rings (3) and (4) from the input flange

4.1.6 Turnover the reducer and remove the output gear (9)

4.2 Re-assembly

4.2.1 Grease (11) and fit 'o' rings (3) and (4) into the input flange (2)

4.2.2 Fit bearing (5), spacer (6) and bearing (5) onto the input shaft (8)

4.2.3 Fit the input shaft subassembly into the input flange and ensure the key end of the input shaft protrudes out of the input flange

4.2.4 Grease gearcase base (1) according to the indication of how much grease needs to be put in the gearcase and fit the output gear (9)

4.2.5 Turnover, grease the input shaft bore and fit the input flange subassembly into the gearcase, ensure that the input shaft meshes with the output gear

4.2.6 Re-fit the 4 off screws (7) into the input flange to secure to the gearcase and re-fit key (10) into the input shaft

4.2.7 Turnover gearbox and test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list for range of IR input reducers	IR & IR2 Part List.doc
Torque tightening figures	Document No FQ 032

SPARE PARTS LIST FOR RANGE OF IR1 AND IR2 INPUT REDUCERS

ITEM	DESCRIPTION	QUANTITY
1	GEARCASE	1
2	INPUT FLANGE	1
*3	O-RING	1
*4	O-RING	1
*5	BALL BEARING	2
6	SPACER	1
7	SCREW	4
8	INPUT SHAFT	1
9	OUTER GEAR	1
10	KEY	1
11	GREASE	

Note: items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF IR3 INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.

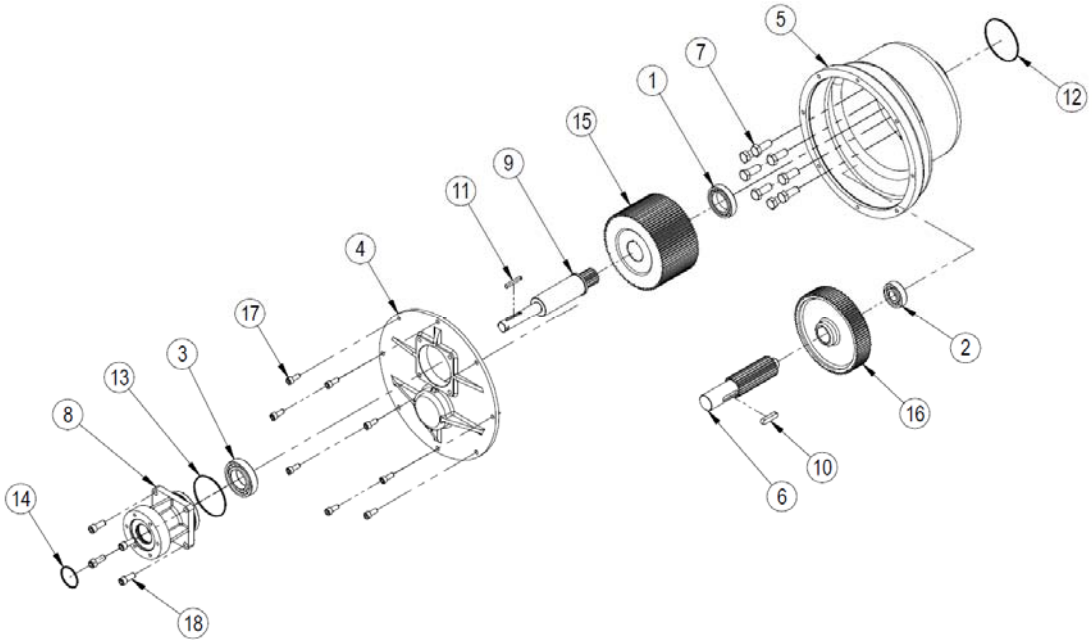
2. **SCOPE:** Rotork Gears range of IR3 input reducers.

3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears IR input reducers.

4. **PROCEDURE:** Refer to spare parts list for item numbers.

4.1 Dismantling

4.1.1 Remove the key (11) from the input shaft (9)
4.1.2 Remove the 4 off screws (18), which secure the input flange (8) to the end plate (4)
4.1.3 Remove the input flange complete with the bearing (3) and input shaft from the end plate
4.1.4 Remove the input shaft, bearing and ‘o’ rings (13) and (14) from the input flange
4.1.5 Remove the 8 off screws (17) which secure the end plate to the gearcase (5)
4.1.6 Remove the end plate, output gear (16), gear shaft (6) and ball bearing (2) from the gearcase.
4.1.7 Remove the key (10) from the gear shaft
4.1.8 Remove the output gear (15), bearing (1) and the 8 off screws (7) from the gearcase.
4.1.9 Remove the ‘o’ ring (12) from the gearcase



EXPLODED VIEW FOR IR3 INPUT REDUCER

4.2 Re-assembly

4.2.1 Grease (19) and fit 'o' ring (12) into the gearcase (5)

4.2.2 Turnover the gearcase and fit the 8 off screws (7), bearing (1) and output gear (15) into the gearcase

4.2.3 Fit bearing (2) and output gear (16) into the gearcase and grease gearcase base according to the indication of how much grease needs to be put in the gearcase

4.2.4 Fit key (10) into gear shaft (6) and fit the gear shaft subassembly into the output gear (16), ensure the gear shaft meshes with the output gear (15)

4.2.5 Fit the end plate (4) onto the gearcase and secure with the 8 off screws (17)

4.2.6 Fit the 'o' rings (13) and (14) into the input flange (8).

4.2.7 Fit bearing (3) onto the input shaft (9) and fit the input shaft subassembly into the input flange, ensure the key end of the input shaft protrudes through the input flange.

4.2.8 Fit the input flange subassembly into the gearcase, ensure the input shaft meshes with the output gear (16)

4.2.9 Fit the 4 off screws (18) into the input flange to secure the input flange to the endplate

4.2.10 Fit key (11) into the input shaft and test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list for range of IR input reducers	IR3 Part List.doc
Torque tightening figures	Document No FQ 032

SPARE PARTS LIST FOR RANGE OF IR3 INPUT REDUCERS

ITEM	DESCRIPTION	QUANTITY
*1	BALL BEARING	1
*2	BALL BEARING	1
*3	BALL BEARING	1
4	END PLATE	1
5	GEARCASE	1
6	GEAR SHAFT	1
7	SCREW	8
8	INPUT FLANGE	1
9	INPUT SHAFT	1
10	KEY	1
11	KEY	1
*12	O-RING	1
*13	O-RING	1
*14	O-RING	1
15	OUTPUT GEAR	1
16	OUTPUT GEAR	1
17	SCREW	8
18	SCREW	4
19	GREASE	

Note: items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF IR3.5 INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.
2. **SCOPE:** Rotork Gears range of IR3.5 input reducers.
3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears IR input reducers.
4. **PROCEDURE:** Refer to spare parts list for item numbers.

4.1 Dismantling

4.1.1 Remove the key (18) from the input shaft (16)

4.1.2 Remove the 4 off screws (25) together with the 4 nordlock washers (20) which secure the input flange (14) to the endplate (10)

4.1.3 Remove the input flange from the endplate, complete with 3x bearings (3), spacer (28), input shaft and ‘o’ rings (22) and (23)

4.1.4 Remove the input shaft, bearings, spacer and ‘o rings from the input flange.

4.1.5 Remove 8 off screws (27) and 8x nordlock washers (19) from the endplate

4.1.6 Remove the endplate from the gearcase (11)

4.1.7 Remove 2x bearings (4) and bearing support ring (7) from the gearshaft (12)

4.1.8 Remove the input gear (15), shaft (12) and key (17) from the gearcase

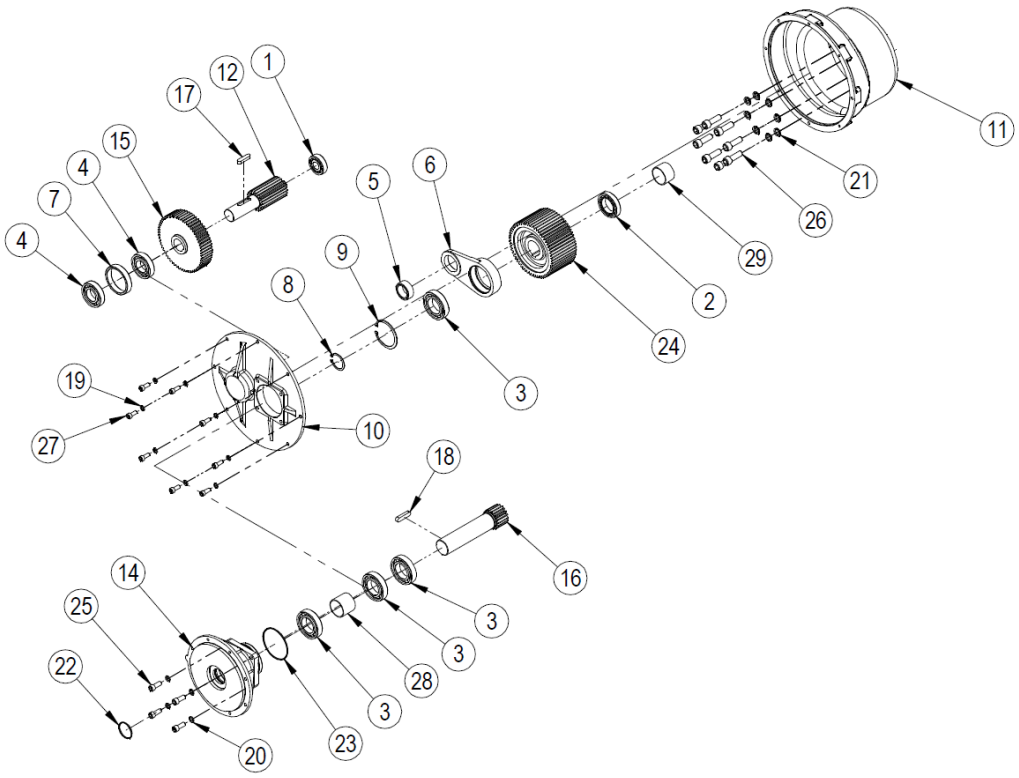
4.1.9 Remove the bearing retainer (6) from the gearcase, complete with bearing (5), circlips (8) and (9) and bearing (3)

4.1.10 Remove the gear shaft and the output gear (24) from the gearcase

4.1.11 Remove the bearings (1) and (2) from the gearcase

4.1.12 Remove the spacer (29) from the gearcase

4.1.13 Remove the 8 off screws (26) from the gearcase, complete with the 8 nordlock washers (21)



EXPLODED VIEW FOR IR3.5 INPUT REDUCER

4.2 Re-assembly

4.2.1 Fit 8x nordlock washers (21) and the 8 off screws (26) into the gearcase (11)

4.2.2 Fit spacer (29) bearings (1) and (2) into the gearcase

4.2.3 Fit the output gear (24) into the gearcase

4.2.4 Fit key (17) into the gearshaft (12) and fit gearshaft subassembly into the gearcase, ensure it meshes with the output gear and grease gearcase base according to the indication of how much grease needs to be in the gearcase

4.2.5 Fit bearing retainer (6) into the gearshaft, ensure the bigger bore fits in the output gear

4.2.6 Fit bearings (5) and (3), circlips (8) and (9) into the bearing retainer

4.2.7 Fit input gear (15) into the gearshaft.

4.2.8 Fit 1x bearing (4) into the bearing support ring (7), fit the subassembly and 1x bearing (4) into the gearshaft

4.2.9 Fit input shaft (16) into the gearcase, ensure it meshes with the input gear

4.2.10 Fit endplate (10) into the gearcase

4.2.11 Fit 8x nordlock washers (19) into 8 off screws (27) and fit the subassembly into the endplate to secure the endplate to the gearcase

4.2.12 Grease and fit 'o' rings (22) and (23) into the input flange (14)

4.2.13 Fit 3x bearings (3) and spacer (28) into the input flange and fit the input flange subassembly into the endplate, ensure the input shaft protrudes out of the input flange

4.2.14 Fit 4x nordlock washers (20) into the 4 off screws (25) and fit the subassembly into the input flange to secure the input flange to the gearcase

4.2.15 Fit key (18) into the input shaft and test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list for range of IR input reducers	IR3.5 Part List.doc
Torque tightening figures	Document No FQ 032

SPARE PARTS LIST FOR RANGE OF IR3.5 INPUT REDUCERS

ITEM	DESCRIPTION	QUANTITY
*1	BEARING RETAINER	1
*2	BEARING	1
*3	BEARING	4
*4	BEARING	2
*5	BEARING	1
6	BEARING	1
7	BEARING SUPPORT RING	1
8	CIRCLIP	1
9	CIRCLIP	1
10	ENDPLATE	1
11	GEARCASE	1
12	GEARSHAFT	1
13	GREASE	1
14	INPUT FLANGE	1

15	INPUT GEAR	1
16	INPUT SHAFT AND GEAR	1
17	KEY	1
18	KEY	1
19	NORDLOCK WASHER	8
20	NORDLOCK WASHER	4
21	NORDLOCK WASHER	8
*22	O-RING	1
*23	O-RING	1
24	OUTPUT GEAR	1
25	SCREW	4
26	SCREW	8
27	SCREW	8
28	SPACER	1
29	SPACER	1

Note: Items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF IR4 INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.
2. **SCOPE:** Rotork Gears range of IR4 input reducers.
3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears IR input reducers.
4. **PROCEDURE:** Refer to spare parts list for item numbers.

4.1 Dismantling

4.1.1 Remove the key (13) from the input shaft (12)
4.1.2 Remove the 4 off screws (23) which secures the input flange (11) to the cover (3)
4.1.3 Remove the input flange from the cover, complete with 2x bearings (7), spacer (24) and input shaft
4.1.4 Remove the input shaft, bearings, spacer and ‘o’ rings (17) and (18) from the input flange.
4.1.5 Remove the 4 off screws (22) from the endcap (8)
4.1.6 Remove the endcap from the cover, complete with the bearing (6)
4.1.7 Remove the bearing and ‘o’ ring (15) from the endcap
4.1.8 Remove the 6 off screws (10) which secures the cover to the gearcase (9)
4.1.9 Remove the cover from the gearcase
4.1.10 Remove the ‘o’ ring (14) from the gearcase
4.1.11 Remove the 2 off unbrako dowels (27) from the gearcase
4.1.12 Remove the circlip (2) and reducer gear (20) from the gearcase

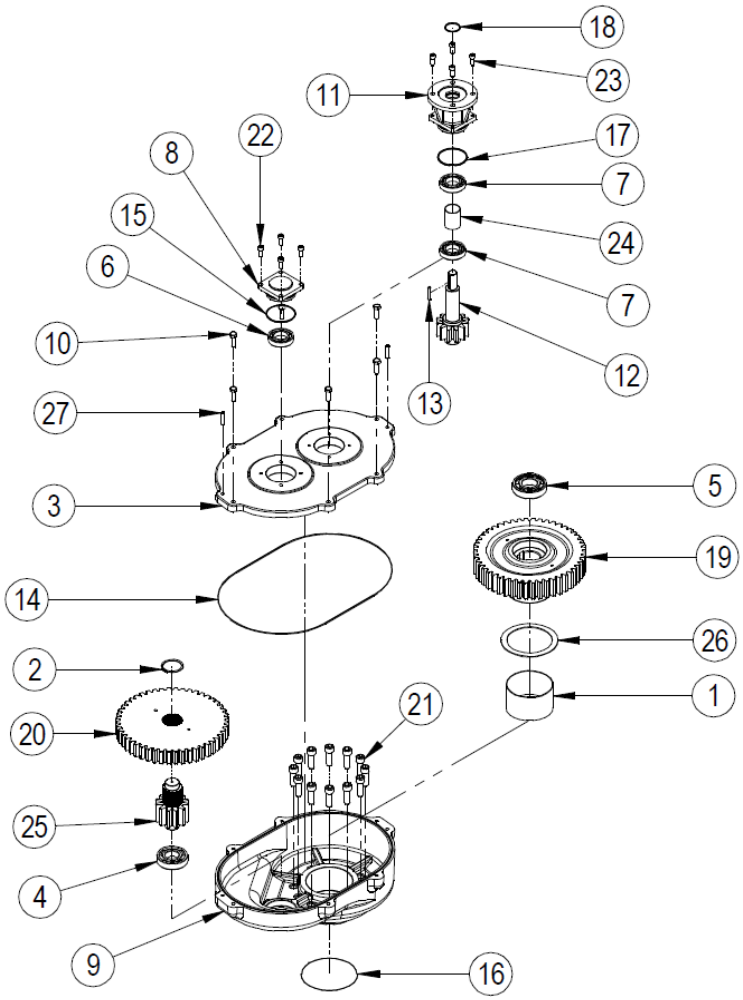
4.1.13 Remove the splined shaft (25) from the gearcase

4.1.14 Remove the output gear (19) and the bearing (5) from the gearcase

4.1.15 Remove the bearing (4), thrust washer (26) and bush (1) from the gearcase

4.1.16 Remove the 12 off screws (21) from the gearcase

4.1.17 Remove the 'o' ring (16) from the gearcase



EXPLODED VIEW FOR IR4 INPUT REDUCER

4.2 Re-assembly

4.2.1 Grease (28) gearcase base and input bore according to the indication of how much grease needs to be put in the gearcase

4.2.2 Grease and fit bearing (4) in the gearcase bore and grease the bearing cavity.

4.2.3 Fit bush (1) and thrust washer (26) in the gearcase

4.2.4 Re-fit the 12 off screws (21) into the gearcase.
4.2.5 Fit the splined shaft (25) into the bearing
4.2.6 Fit the output gear (19) into the gearcase, ensure the teeth meshes with the splined shaft
4.2.7 Grease and fit bearing (5) into the output gear
4.2.8 Fit 2x bearings (7) and spacer (24) into the input shaft (12)
4.2.9 Fit the input shaft subassembly into the output gear
4.2.10 Fit the reducer gear (20) into the gearcase and ensure meshes with the input shaft
4.2.11 Fit the circlip (2) onto the splined shaft
4.2.12 Grease and fit 'o' ring (14) into the gearcase (9)
4.2.13 Fit cover (3) onto the gearcase and re-fit the 6 off screws (10) to secure the cover to the gearcase
4.2.14 Re-fit the 2 off unbrako dowels (27) into the cover
4.2.15 Grease and fit 'o' rings (17) and (18) into the input flange (11)
4.2.16 Fit the input flange into the cover and re-fit the 4 off screws (23) to secure the input flange to the cover
4.2.17 Grease and fit 'o' ring (15) and bearing (6) into the endcap (8) then fit the endcap subassembly into the cover
4.2.18 Re-fit the 4 off screws (22) into the endcap to secure the endcap to the cover
4.2.19 Turnover the gearbox and fit 'o' ring (16) into the gearcase
4.2.20 Test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list for range of IR input reducers	IR4 Part List.doc
Torque tightening figures	Document No FQ 032

SPARE PARTS LIST FOR RANGE OF IR4 INPUT REDUCERS

ITEM	DESCRIPTION	QUANTITY
1	BUSH	1
2	CIRCLIP	1
3	COVER	1
*4	DEEP GROOVE BALL BEARING	1
*5	DEEP GROOVE BALL BEARING	1
*6	DEEP GROOVE BALL BEARING	1
*7	DEEP GROOVE BALL BEARING	2
8	ENDCAP	1
9	GEARCASE	1
10	SCREW	6
11	INPUT FLANGE	1
12	INPUT SHAFT	1
13	KEY	1
*14	O-RING	1

*15	O-RING	1
*16	O-RING	1
*17	O-RING	1
*18	O-RING	1
19	OUTPUT GEAR	1
20	REDUCER GEAR	1
21	SCREW	12
22	SCREW	4
23	SCREW	4
24	SPACER	1
25	SPLINED SHAFT	1
26	THRUST WASHER	1
27	UNBRAKO DOWEL	2
*28	GREASE	

Note: Items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF AS INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.

2. **SCOPE:** Rotork Gears range of AS input reducers.

3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears AS input reducers.

4. **PROCEDURE:** Refer to spare parts list for item numbers.

4.1 Dismantling

4.1.1 Remove the key (11) from the input shaft (10).

4.1.2 Remove the 4 off screws (18), which secures the input flange (9) to the gearcase (5)

4.1.3 Remove the input flange from the gearcase complete with the input shaft, ‘o’ rings (14) and (15) and bearing (3)

4.1.4 Remove the ‘o’ ring (13) from the gearcase

4.1.5 Remove the input shaft, bearing and ‘o’ rings from the input flange.

4.1.6 Turnover the gearbox and remove the 4 off screws (18), which secure the endcap (4) to the gearcase

4.1.7 Remove the endcap from the gearcase, complete with the bearing (1) and ‘o’ ring (12)

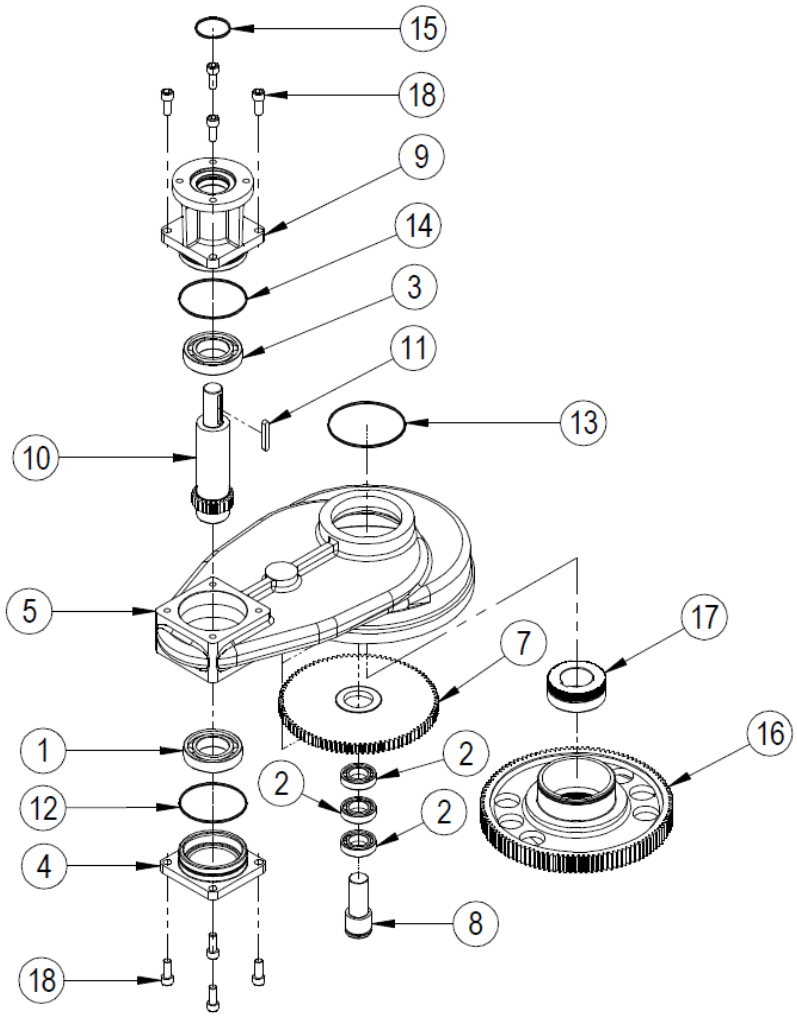
4.1.8 Remove the bearing and ‘o’ ring from the endcap

4.1.9 Remove the output hub (17) from the output gear (16) and remove the output gear from the gearcase.

4.1.10 Remove the idler shaft (8) from the gearcase

4.1.11 Remove the idler gear (7) from the gearcase, complete with 3x bearings (2)

4.1.12 Remove the bearings from the idler gear



EXPLODED VIEW FOR AS INPUT REDUCER

4.2 Re-assembly

4.2.1 Grease (6) and fit 3x bearings (2) in the idler gear (7)

4.2.2 Grease the base of the gearcase (5) and fit the idler gear subassembly into the gearcase, ensure the idler gear is positioned with the idler shaft bore

4.2.3 Fit idler shaft (8) into the gearcase, ensure the idler shaft does not protrude on the gearcase.

4.2.4 Fit output gear (16) into the gearcase and ensure it meshes with the idler gear

4.2.5 Fit output hub (17) into the output gear

4.2.6 Fit the ‘o’ ring (12) and bearing (1) to the endcap (4).
4.2.7 Fit the endcap subassembly into the gearcase.
4.2.8 Secure the endcap to the gearcase with the 4 off screws (18)
4.2.9 Turnover the gearbox and fit the ‘o’ ring (13) into the gearcase
4.2.10 Fit the ‘o’ rings (14) and (15) in to the input flange (9)
4.2.11 Fit the bearing (3) on the input shaft (10) and fit the input shaft subassembly into the input flange.
4.2.12 Fit the input flange subassembly into the gearcase, ensure the input shaft meshes with the idler gear
4.2.13 Secure the input flange to the gearcase with the 4 off screws (18)
4.2.14 Fit the key (11) into the input shaft
4.2.15 Test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list for range of AS input reducers: AS Part List.doc
Torque tightening figures Document No FQ 032

SPARE PARTS LIST FOR RANGE OF AS INPUT REDUCERS

ITEM	DESCRIPTION	QUANTITY
1	BALL BEARING	1
2	BALL BEARING	3
3	BALL BEARING	1
4	ENDCAP	1
5	GEARCASE	1
6	GREASE	
7	IDLER GEAR	1
8	IDLER SHAFT	1
9	INPUT FLANGE	1
10	INPUT SHAFT	1
11	KEY	1
*12	O-RING	1
*13	O-RING	1
*14	O-RING	1
*15	O-RING	1
16	OUTPUT GEAR	1
17	OUTPUT HUB	1
18	SCREW	8

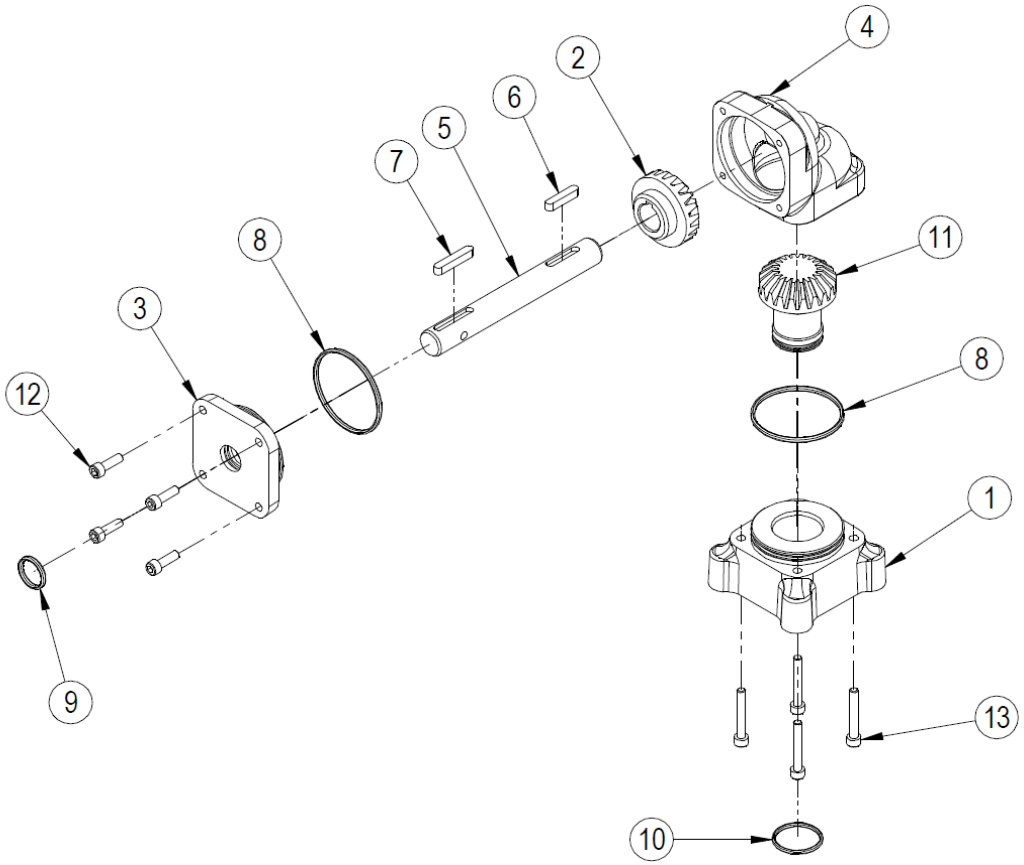
Note: items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF W100 INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.
2. **SCOPE:** Rotork Gears range of W100 input reducer
3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears W100 input reducers
4. **PROCEDURE:** Refer to spare parts list for item numbers. For additional information see Documentation.

4.1 Dismantling

4.1.1 Remove the key (7) from the input shaft (5)
4.1.2 Remove 4 off screws (12) from the input flange (3)
4.1.3 Remove the input flange from the gearcase (4)
4.1.4 Remove the 'o' rings (8) and (9) from the input flange
4.1.5 Remove the input shaft from the gearcase, complete with the key (6) and bevel gear (2)
4.1.6 Remove the bevel gear and key from the input shaft
4.1.7 Turnover the gearbox and remove 4 off screws (13) from the baseplate (1)
4.1.8 Remove the baseplate and output gear (11) from the gearcase
4.1.9 Remove the output gear and 'o' rings (8) and (10) from the baseplate



EXPLODED VIEW FOR IW 100 GEARBOX OPERATIONS

4.2 Re-assembly

4.2.1 Grease (14) and fit the 'o' rings (8) and (10) into the baseplate (1)
4.2.2 Fit output gear (11) into the baseplate
4.2.3 Fit the baseplate subassembly into the gearcase (4)
4.2.4 Re-fit the 4 off screws (13) into the baseplate to secure the baseplate to the gearcase
4.2.5 Fit key (6) into the input shaft (5)
4.2.6 Fit bevel gear (2) onto the input shaft
4.2.7 Fit input shaft subassembly into the gearcase, ensure the bevel gear meshes with the output gear
4.2.8 Grease and fit 'o' rings (8) and (9) into the input flange (3)
4.2.9 Fit input flange into the gearcase, ensure the input shaft protrudes out of the input flange
4.2.10 Re-fit the 4 off screws (12) into the input flange to secure the input flange to the gearcase
4.2.11 Fit key (7) into the input shaft and test the gearbox for free rotation

5. DOCUMENTATION

Spare parts list W100 input reducers:	W100 SPARES
Torque tightening figures	Document No FQ 032
Gearbox Installation Manual	RG-INSTALL

SPARE PARTS LIST FOR W100 INPUT REDUCER

ITEM	DESCRIPTION	QUANTITY
1	BASEPLATE	1
2	BEVEL GEAR	1
3	COVER PLATE	1
4	GEARCASE	1
5	INPUT SHAFT	1
6	KEY	1
7	KEY	1
*8	O RING	2
*9	O RING	1
*10	O RING	1
11	OUTPUT GEAR	1
12	SCREW	4
13	SCREW	4
*14	GREASE	

Note: Items marked * are the recommended spares holding for 5 years operation

PROCEDURE FOR DISMANTLING / RE-ASSEMBLY OF MPR INPUT REDUCERS

1. **PURPOSE:** To provide dismantling / re-assembly instructions.
2. **SCOPE:** Rotork Gears range of MPR input reducer
3. **DEFINITION:** Sequence of instructions to dismantle and re-assemble Rotork Gears MPR input reducers.
4. **PROCEDURE:** Refer to spare parts list for item numbers. For additional information see Documentation.

4.1 Dismantling

4.1.1 Remove key (7) from the input shaft (6)
4.1.2 Remove 4 off screws (17) from the reducer cover (16)
4.1.3 Remove 4 off screws (12) from the input flange (3)
4.1.4 Remove the input flange from the gearcase (4)
4.1.5 Remove the 'o' rings (8) and (9) from the input flange
4.1.6 Remove the input shaft from the gearcase, complete with the key (6) and bevel gear (2)
4.1.7 Remove the bevel gear and key from the input shaft
4.1.8 Turnover the gearbox and remove 4 off screws (13) from the baseplate (1)
4.1.9 Remove the baseplate and output gear (11) from the gearcase
4.1.10 Remove the output gear and 'o' rings (8) and (10) from the baseplate