TL-VP2T-PLM
Edition 3
November 2023

Precision Torque Multiplier

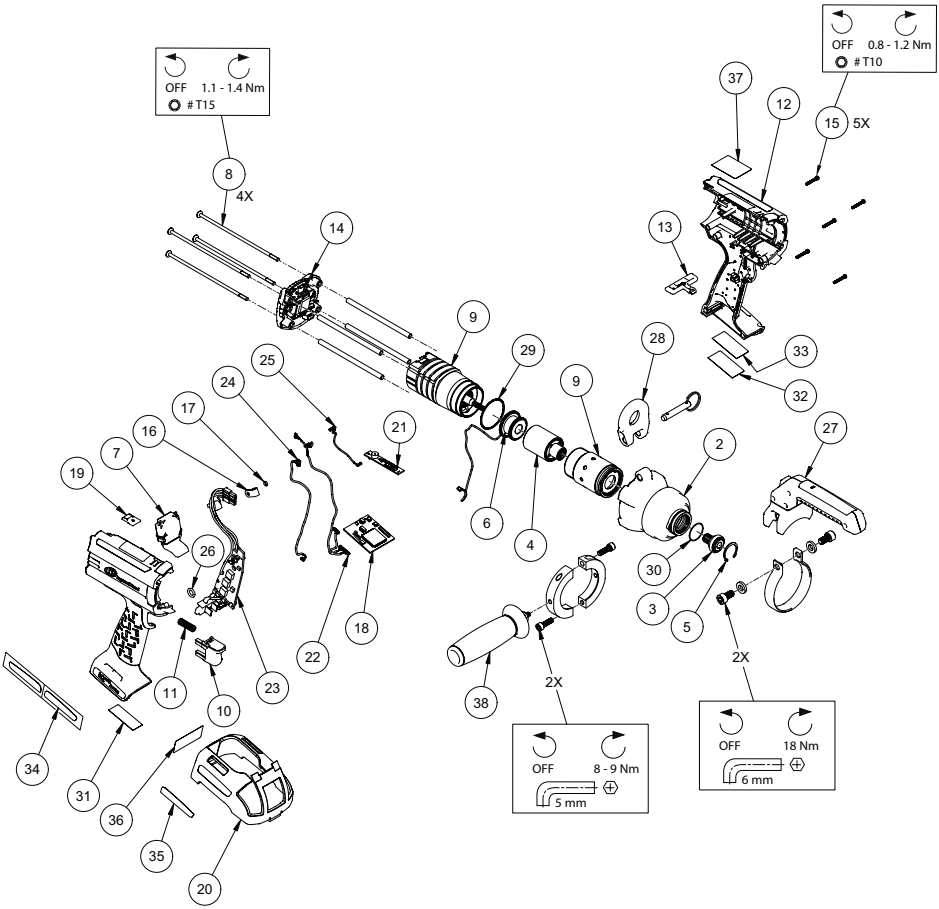
QX Connect Multiplier Series

Parts Information

Save These Instructions

Ingersoll Rand

QX{ }5P{ } Housing Assembly - Exploded View

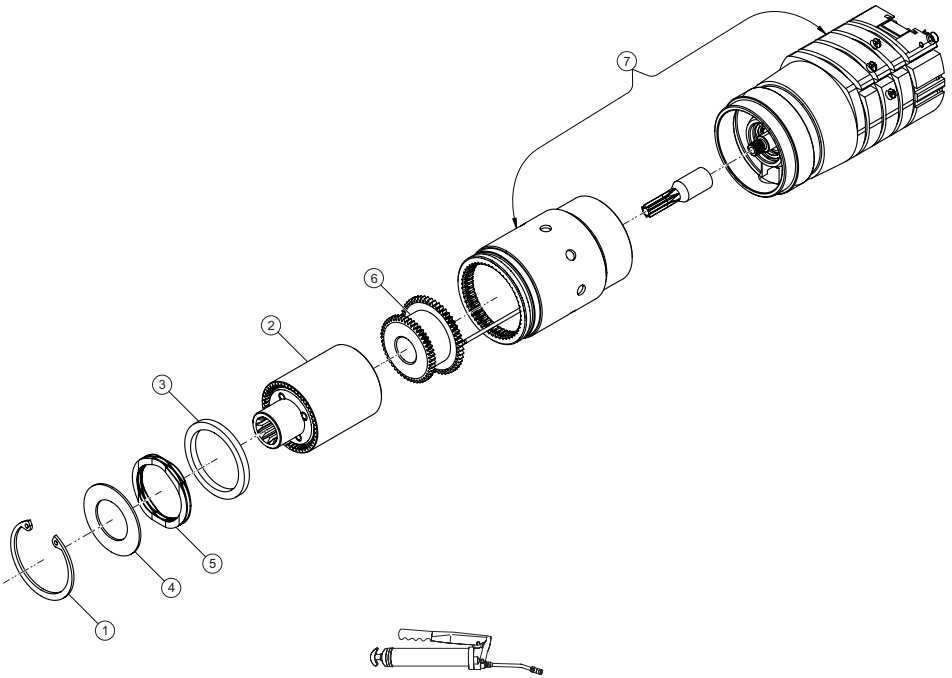


Use lithium-based, electrical contact grease with no particles for all electrical connections.

QX{ }5P{ } Housing Assembly - Parts List

Item	Part Description	Part Number (CCN)
2	Case	VP2-40
3	Adapter Assembly	VP2-212A
4	Gear Pack Assembly	GEA40-A8-18 (22038186)
5	Retaining Ring	VP2-518
6	Transducer Assembly	VP2-A756
7	Fan Assembly	TA-VP2-258
8	Screw, Housing Long	VP2-25
9	Drive Module	VP2-A53
10	Trigger Assembly	VP2-A93
11	Spring	VP1-726 (47088356)
12	Handle Assembly	VP2-A59
13	Switch, F/R Assembly	VP2-A75
14	Back Cap Assembly	TA-VP2T-888-2DD
15	Screw	VP1-105 (47111778)
16	Cable Clamp	VP2-100
17	O-Ring	VP2-100-2
18	Motor Controller Board, 40V	TA-VA2T-499-1
19	USB Cover	VP2-441
20	Retainer, Battery	VP1-202V (47506474001)
21	Trigger Board Assembly, 40V Pistol	TA-VP2-499-5
22	Cable, Internal Interface	VP2-CABLE-1
23	Power Board Assembly, 40V Pistol	TA-VP2T-499-3
24	Cable, Motor Hall	VP2-CABLE-2
25	Cable, Trigger Harness	VP2-CABLE-3
26	O-Ring, Pcb	VP1-282 (47104211)
27	Auxiliary Handle Assembly	VP2-AAUX-T
28	Tethering Hook Assembly	VP2-377A
29	O-Ring	Y327-30 (81393142)
30	O-Ring	VP2-137
31	Label, Certification	TL-VP1T-300
32	Label, Information, All Transparent	TL-VP1-486AT
33	Label, Information	TL-VP1T-486
34	Foot Label	TL-VP2-099-3V
35	Retainer Foot Label, C1D2 Conspicuity	VP1-99V-2 (47508447001)
36	Hzrd Locs Warning Label	VP1-99V (47506214001)
37	Warning Labels	TL-VP2-099-5PV
		TL-VP2-099-5PP
38	Auxiliary Handle Assembly	NSP-A48

Drive Module (VP2-A53) - Exploded View

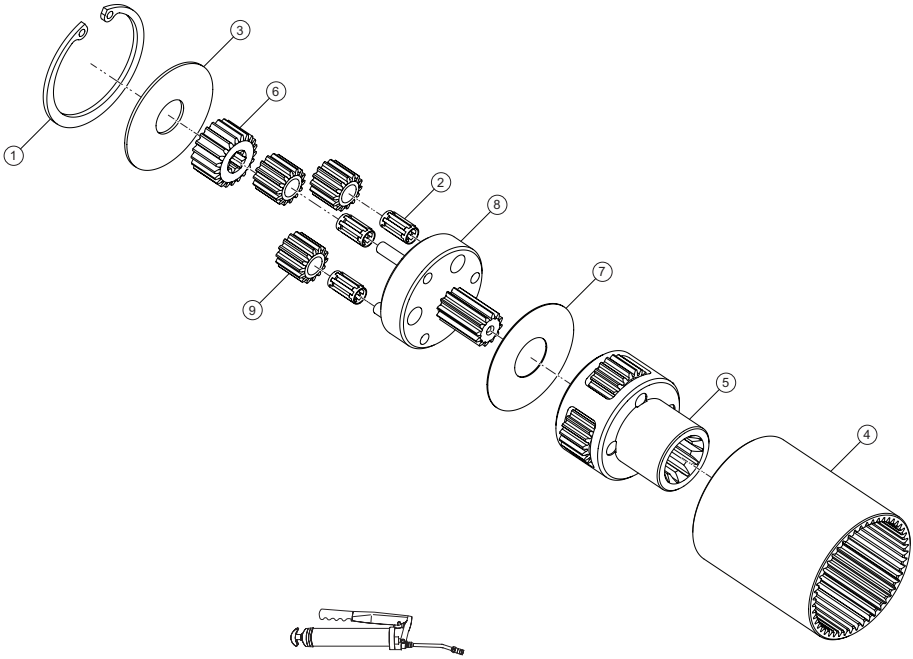


Ingersoll Rand #170

Drive Module (VP2-A53) - Parts List

Item	Part Description	Part Number (CCN)
1	Retaining Ring	W64-118 (03084266)
2	Gear Pack Assembly	GEA40-17-M37 (22038186)
3	Seal, Grease	GEA40-248 (80106958)
4	Washer	VP2-247
5	Wave Spring	VP2-250
6	Transducer Assembly	VP2-A756
7	Kit, Motor, Pinion, and Gear Case Assembly	TK-VP2-A53-7

Gear Pack Assembly (PN GEA40-17-M37) - Exploded View

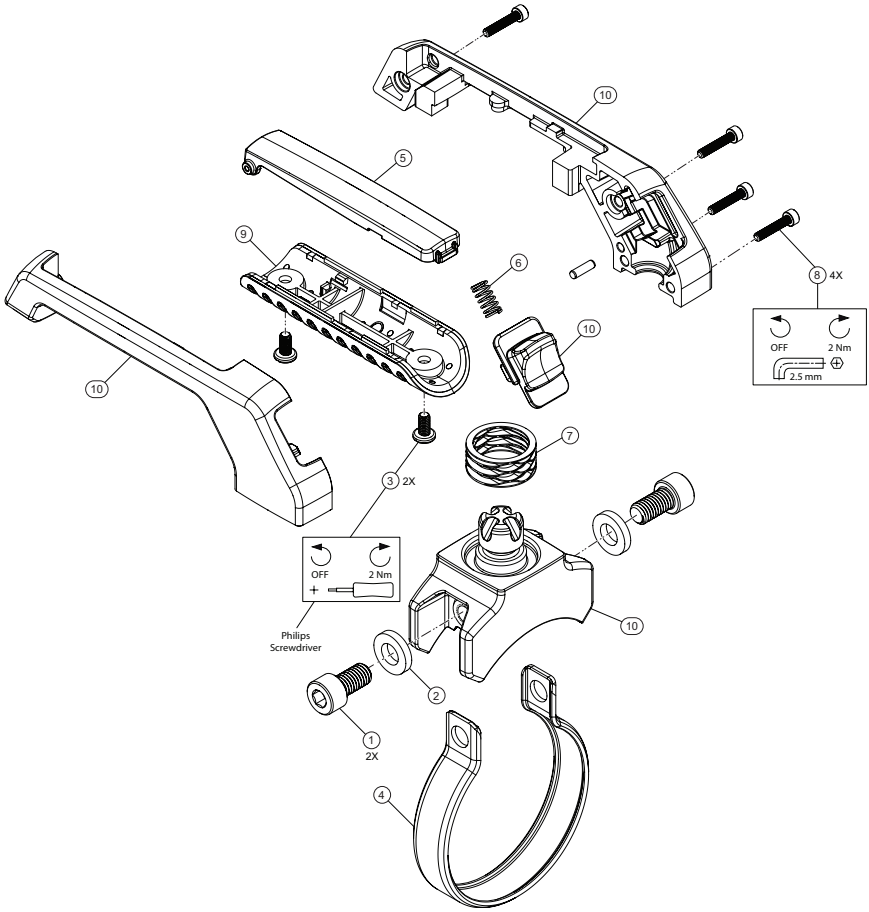


Ingersoll Rand #170

Gear Pack Assembly (PN GEA40-17-M37) - Parts List

Item	Part Description	Part Number (CCN)
1	Internal Retaining Ring	4E-118 (03079738)
2	Brg-Cage Roller	6WTM-500 (03800299)
3	Spacer	GEA40-81 (22036495)
4	Ring Gear	GEA40-406 (22038079)
5	Spindle Assembly	GEA40-A8-18 (22038145)
6	Sun Gear	GEA40-17-21 (22039317)
7	Spacer	GEA40-80 (22041883)
8	Gearhead Assembly	GEA40-A216-14 (80096050)
9	Planet Gear	GEA40-10-14 (80098064)

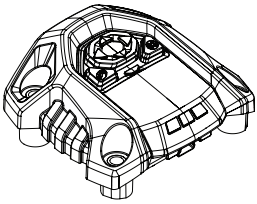
QX{ }5{ }T{ }M{ } Auxiliary Handle Assembly (VP2-AAUX-T) - Exploded View



QX{ }5{ }T{ }M{ } Auxiliary Handle Assembly (VP2-AAUX-T) - Parts List

Item	Part Description	Part Number (CCN)
1	Screw, Auxiliary Band	VP2-49
2	Washer, Auxiliary Band	VP2-49-2
3	Screw, Auxiliary Tray	VP2-78
4	Auxiliary Band	VP2-364
5	Single Trigger, Auxiliary Handle	VP2-400-T
6	Spring, Auxiliary Handle	VP2-405
7	Wave Spring	VP2-405-2
8	Screw, Auxiliary Handle	VP2-667
9	Tray, Auxiliary Handle	VP2-981
10	Auxiliary Handle Assembly	VP2-A48

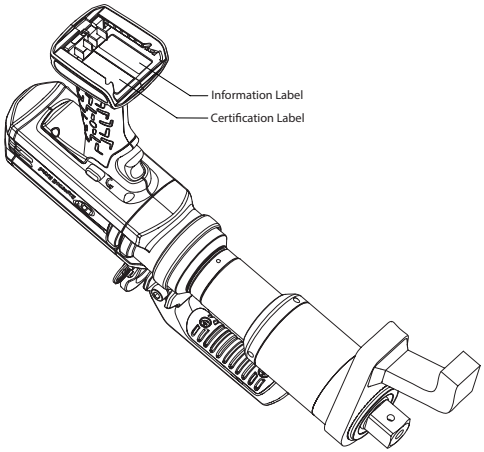
Back Cap Assembly - 40V Multiplier Tool	
Part Number (CCN)	**Model Type**
QXXD5PT000P000	QXXD5PT{ }P{ }
QXBD5PT000P000	QXBD5PT{ }P{ }
QXFD5PT000P000	QXFD5PT{ }P{ }



Suggested Tools

Tool Used	Part Description	Where Used?
Torque Screwdriver	2 Nm capacity	Housing and Back Cap Screws
T10 Torx Bit	---	Housing Screws
T15 Torx Bit		Back Cap Screws
Allen Wrench	6 mm	Auxiliary Band
	2.5 mm	Auxiliary Handle
Phillips Head Screwdriver	---	Auxiliary Tray
Internal Snap Ring Pliers		General Use
Pick		O-Rings, Wires, etc.
Torque Wrench	1/2" Sq. Drive, 50 ft-lb capacity	General Use

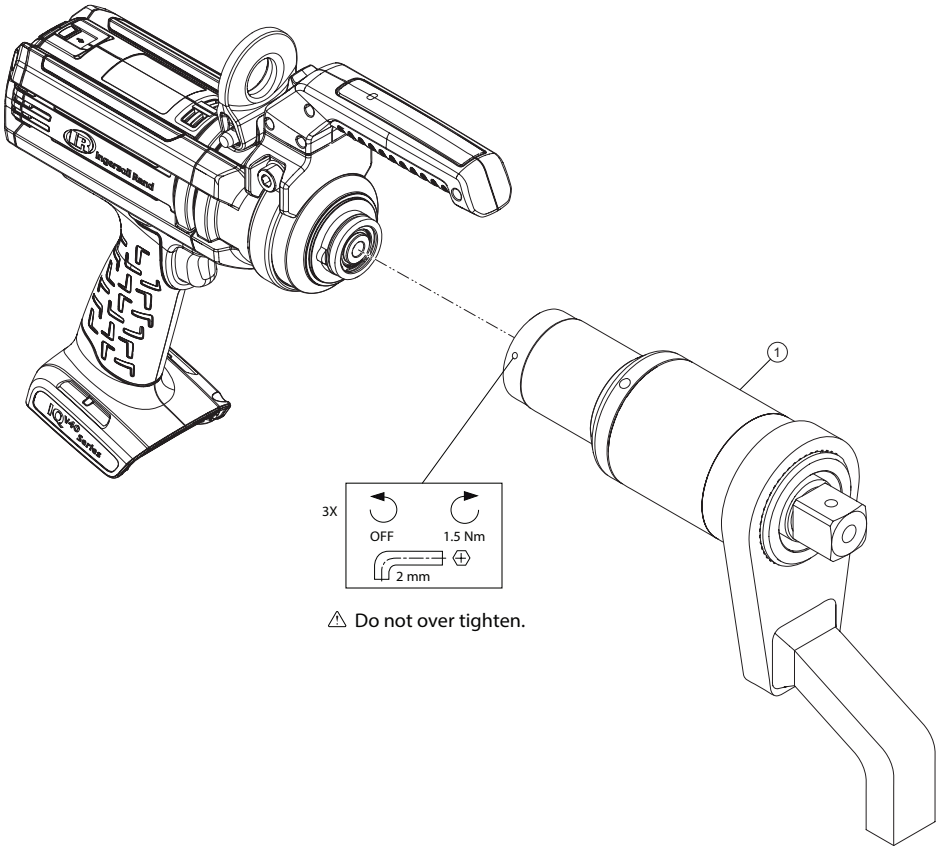
Tool Assembly



QX{ }5P

Part Description	Part Number (CCN)
Information Label	TL-VP1T-486
Certification Label	TL-VP1T-300

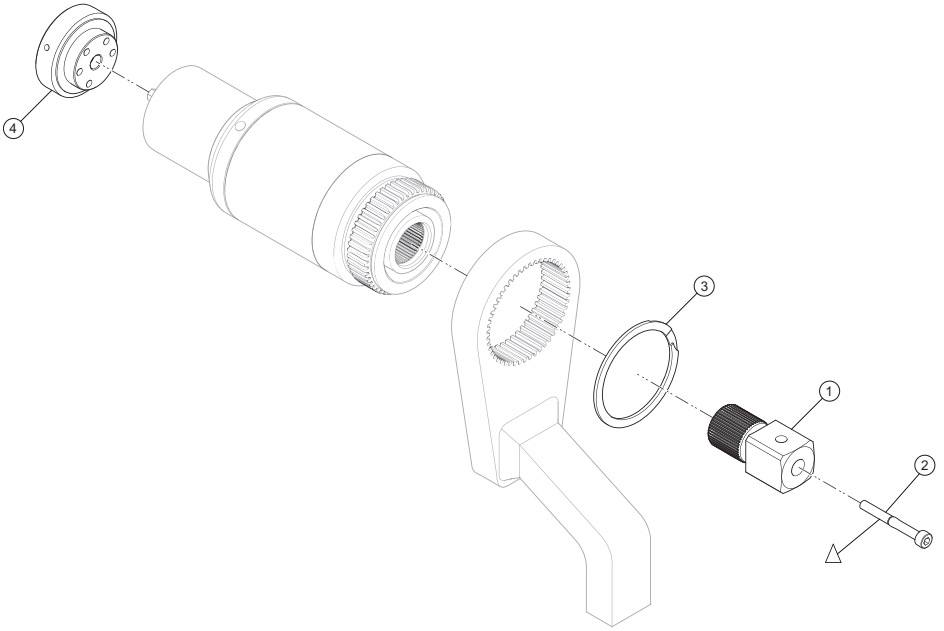
Norbar Gearbox Assemblies



Norbar Gearbox Assemblies - Parts List

Item	Part Description	Part Number (CCN)
1	Gearbox Assembly, 200 Nm W Reaction Arm	NSP-A750-200A
	Gearbox Assembly, 500 Nm W Reaction Arm	NSP-A750-500A
	Gearbox Assembly, 1000 Nm W Reaction Arm	NSP-A750-1000A
	Gearbox Assembly, 1350 Nm W Reaction Arm	NSP-A750-1350A
	Gearbox Assembly, 2000 Nm W Reaction Arm	NSP-A750-2000A
	Gearbox Assembly, 2700 Nm W Reaction Arm	NSP-A750-2700A
	Gearbox Assembly, 4000 Nm W Reaction Arm	NSP-A750-4000A
	Gearbox Assembly, 6000 Nm W Reaction Arm	NSP-A750-6000A
	Gearbox Reaction Arm Assembly, 1000 Nm Wheel, 1" Sq.	TA-VP2-750-01K-W16

Norbar Gearbox Assembly - Exploded View



Norbar Gearbox Assembly - Parts List

Item	Part Description	NSP-A750-200A	NSP-A750-500A	NSP-A750-1000A	NSP-A750-1350A	NSP-A750-01K-16
1	Square Drive	NSP-299-52S12	NSP-299-52S12	NSP-299-72S12	NSP-299-72S16	TK-NSP-299-72S16
2	Square Drive Retaining Screw	NSP-299-M4X30	NSP-299-M4X30	NSP-299-M5X45	NSP-299-M5X45	
3	Circlip	NSP-299-CLP72	NSP-299-CLP72	NSP-299-CLP72	NSP-299-CLP72	NSP-299-CLP72
4	IR Pistol Adapter Kit	NSP-766-W2222	NSP-766-W2222	NSP-766-W2222	NSP-766-W2222	NSP-766-W2222

Item	Part Description	NSP-A750-2000A	NSP-A750-2700A	NSP-A750-4000A	NSP-A750-6000A
1	Square Drive	NSP-299-72S16	NSP-299-80S16	NSP-299-92S16	NSP-299-119S24
2	Square Drive Retaining Screw	NSP-299-M5X45	NSP-299-M5X40	NSP-299-M5X60	NSP-299-M5X80
3	Circlip	NSP-299-CLP72	NSP-299-CLP72	NSP-299-CLP72	NSP-299-CLP72
4	IR Pistol Adapter Kit	NSP-766-W2222	NSP-766-W2222	NSP-766-W2222	NSP-766-W2222

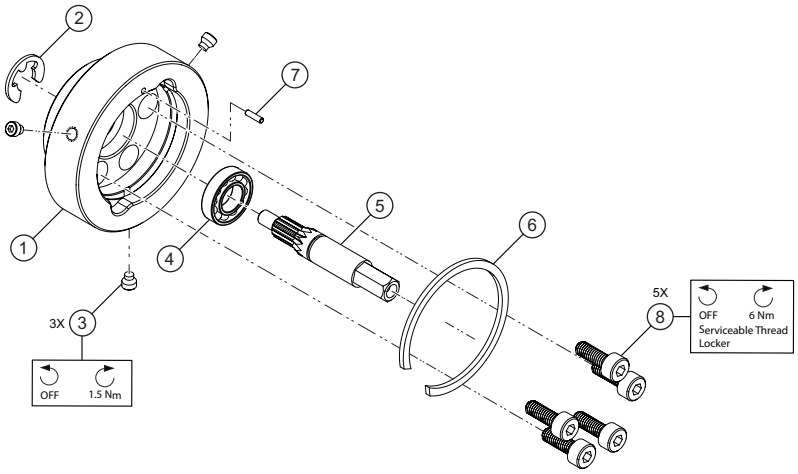
Square Drive Retaining Screw Torque Spec Δ

Norbar Gearbox Torque:	Torque:
200 Nm	6 Nm
500 Nm	
1000 Nm	12 Nm
1350 Nm	
2000 Nm	
2700 Nm	
4000 Nm	
6000 Nm	

1000 Nm Truck Lane	**For 1000 Nm, 1" Square Wheel Applications:** Apply Blue Thread Locker to Square Drive Retaining Screw. Tighten to 1 Nm and then loosen 180 degree to Set Screw position. Allow 12 hours cure time minimum. Note: Minimum Square Drive gap shall be 0.4 mm.

Note: Apply Serviceable Thread Locker to Retaining Screw (Item 2).

Norbar Adapter Assembly Kit (NSP-766-W2222) - Exploded View



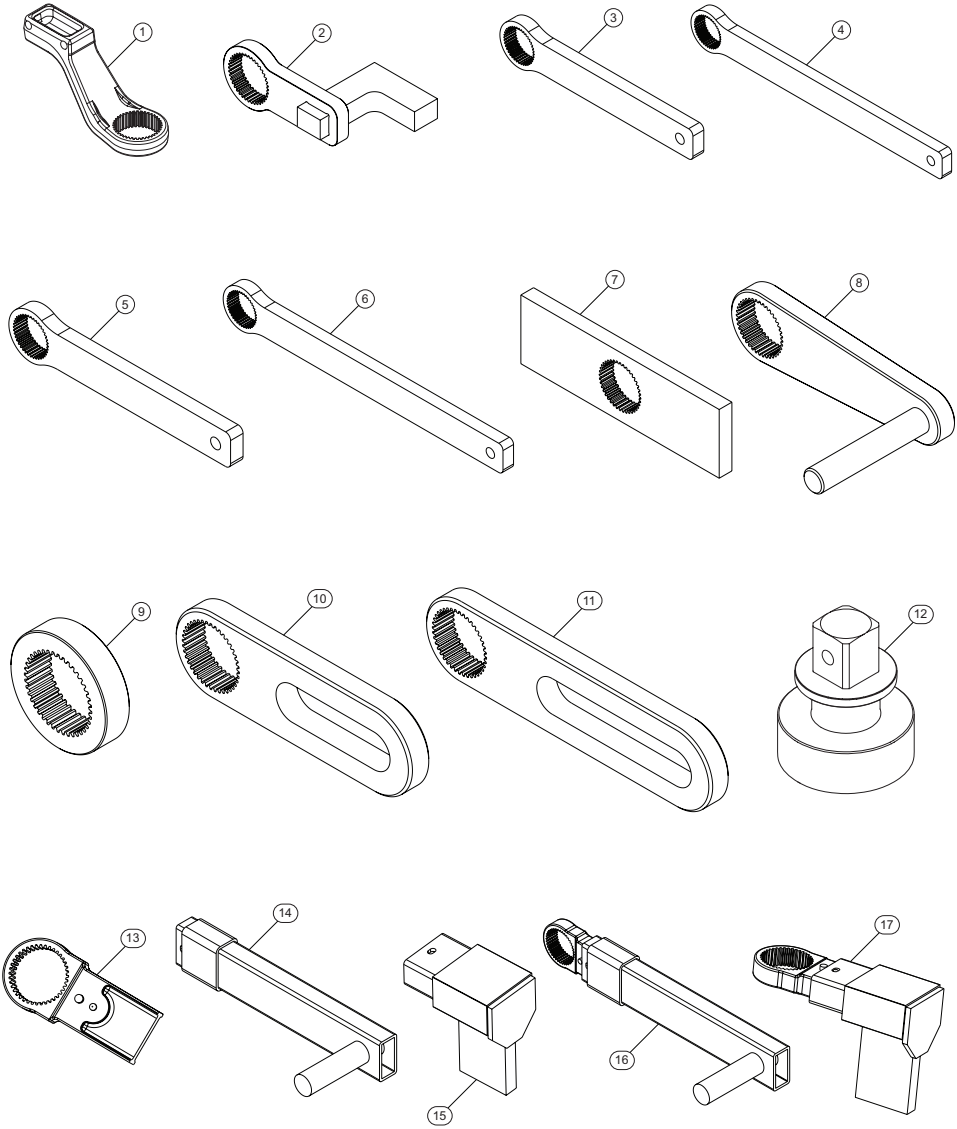
Norbar Adapter Assembly Kit (NSP-766-W2222) - Parts List

Item	Part Description	Part Number (CCN)
1	Adapter, Norbar (IR PN NSP-212)	19339
2	Snap Ring	26491
3	Set Screw (1.5 Nm at Assembly to Power Unit) (3 required)	25396S.4
4	Ball Bearing	27308
5	Drive Shaft, Hex	19143
6	Retaining Ring	265150
7	Press Pin	27125
8	M4 SHCS (Serviceable Thread Locker + 6 Nm) (5 required)	25351.12

Suggested Tools

Tool Used	Part Description	Where Used?
Allen Wrench	2 mm	Norbar Gearbox Assembly onto IR Power Unit
	2.5 mm	IR to Norbar Adapter Assembly
	3 mm	Norbar Square Drive (200 Nm and 500 Nm Gearboxes)
	4 mm	Norbar Square Drive (1000 Nm - 6000 Nm Gearboxes)
Flat Head Screw Driver	---	Norbar Reaction Bar

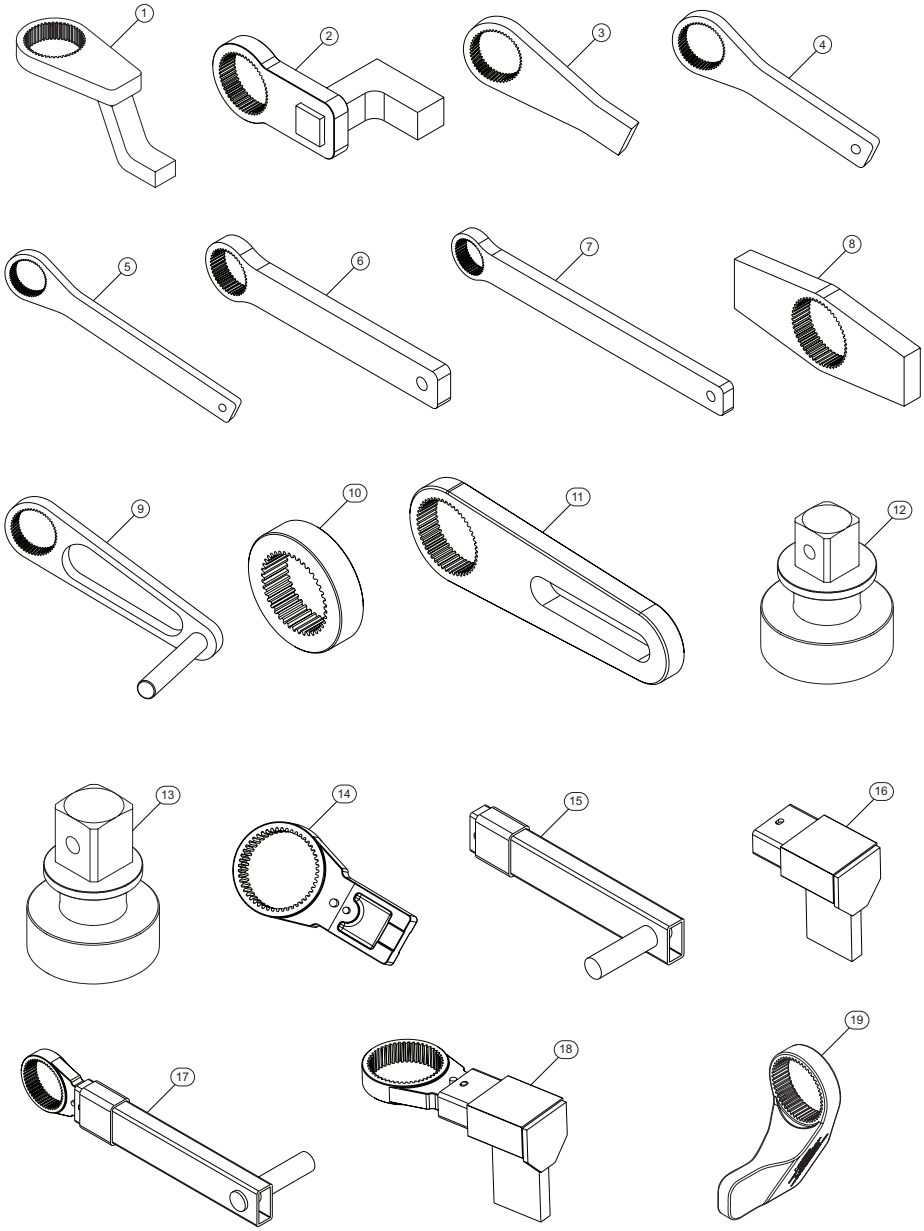
Reaction Options - NSP-A750-200A and NSP-A750-500A



Reaction Options - NSP-A750-200A and NSP-A750-500A - Parts List

Item	Part Description	Part Number (CCN)
1	Cranked Reaction Arm (Standard) - 52 mm, Steel	NSP-766-52CR
2	Cranked Reaction Bar, 52 mm, Steel, 90 degree	NSP-766-52CR90
3	Reaction Arm, 52 mm, Straight, Steel, 10.0"	NSP-766-52ST
4	Reaction Arm, 52 mm, Straight, Steel, 15.5"	NSP-766-52STS155
5	Reaction Arm, 52 mm, Straight, Aluminum, 10.0"	NSP-766-52STA100
6	Reaction Arm, 52 mm, Straight, Aluminum, 15.5"	NSP-766-52STA155
7	Reaction Arm, 52 mm, Double Sided, Straight, Steel, 9.84"	NSP-766-52STSD098
8	Reaction Arm, 52 mm, Plate and Peg, Steel, 6.0"	NSP-766-52PPS060
9	Weld Ring, 52 mm	NSP-766-52WR
10	Plate, Sliding Reaction, 52 mm, Steel, 5"	NSP-766-52SLS050
11	Reaction Arm, 52 mm, Sliding Plate for Sliding Slave Square, Straight, Steel, 7.0"	NSP-766-52SL
12	Slave Square Kit for Sliding Reaction Arm, 200 Nm and 500 Nm (3/4" Sq.)	NSP-766-52SLK12
13	Reaction Arm, 52 mm, Yoke	NSP-766-52Y
14	Reaction Arm 52/72 mm, Yoke Tube and Peg, Steel	NSP-766-52-72YTP
15	Reaction Arm 52/72 mm, Yoke Tube and Paddle, Steel	NSP-766-52-72YP
16	Reaction Adapter 52 mm, Yoke & Tube Assembly, 11.7"	NSP-766-52YTA
17	Reaction Adapter 52 mm, Yoke & Paddle Assembly	NSP-766-52YPA

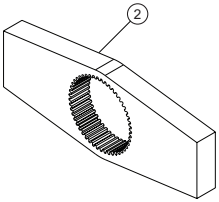
Reaction Options - NSP-A750-1000A, NSP-A750-1350A, and NSP-A750-2000A

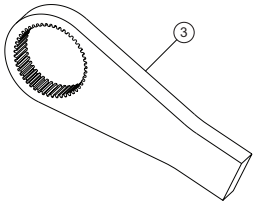


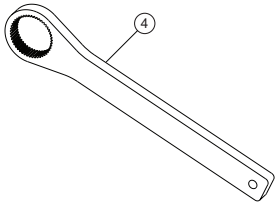
Reaction Options - NSP-A750-1000A, NSP-A750-1350A, and NSP-A750-2000A - Parts List

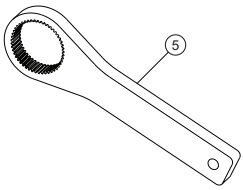
Item	Part Description	Part Number (CCN)
1	Cranked Reaction Arm (Standard) - 72 mm, Steel	NSP-766-72CR
2	Cranked Reaction Bar, 72 mm, Steel, 90 degree	NSP-766-72CR90
3	Reaction Arm, 72 mm, Straight, Steel, 6.97"	NSP-766-72STS070
4	Reaction Arm, 72 mm, Straight, Steel, 10.0"	NSP-766-72ST
5	Reaction Arm, 72 mm, Straight, Steel, 15.5"	NSP-766-72STS155
6	Reaction Arm, 52 mm, Straight, Aluminum, 10.0"	NSP-766-52STA100
7	Reaction Arm, 52 mm, Straight, Aluminum, 15.5"	NSP-766-52STA155
8	Reaction Arm, 72 mm, Double Sided, Straight, Steel, 7.87"	NSP-766-72STSD079
9	Reaction Arm, 72 mm, Plate and Peg, 10"	NSP-766-72PP100
10	Weld Ring, 72 mm	NSP-766-72WR
11	Reaction Arm, 72 mm, Sliding Plate for Sliding Slave Square, Straight, Steel, 8.0"	NSP-766-72SL
12	Slave Square Kit for Sliding Reaction Arm, 1000 Nm, 1350 Nm, and 2000 Nm (3/4" Sq.)	NSP-766-72SLK12
13	Slave Square Kit for Sliding Reaction Arm, 1000 Nm, 1350 Nm, and 2000 Nm (1" Sq.)	NSP-766-72SLK16
14	Reaction Arm, 72 mm, Yoke	NSP-766-72Y
15	Reaction Arm 52/72 mm, Yoke Tube and Peg, Steel	NSP-766-52-72YTP
16	Reaction Arm 52/72 mm, Yoke Tube and Paddle, Steel	NSP-766-52-72YP
17	Reaction Adapter 72 mm, Yoke & Tube Assembly, 11.7"	NSP-766-72YTA
18	Reaction Adapter 72 mm, Yoke & Paddle Assembly	NSP-766-72YPA
19	Reaction Arm, Short	TP-NSP-766-72WS

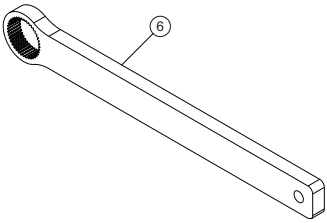
Reaction Options - NSP-A750-2700A

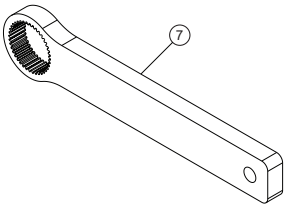


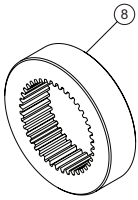


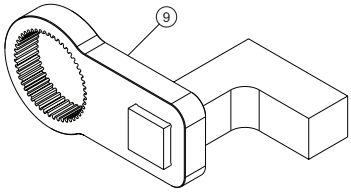








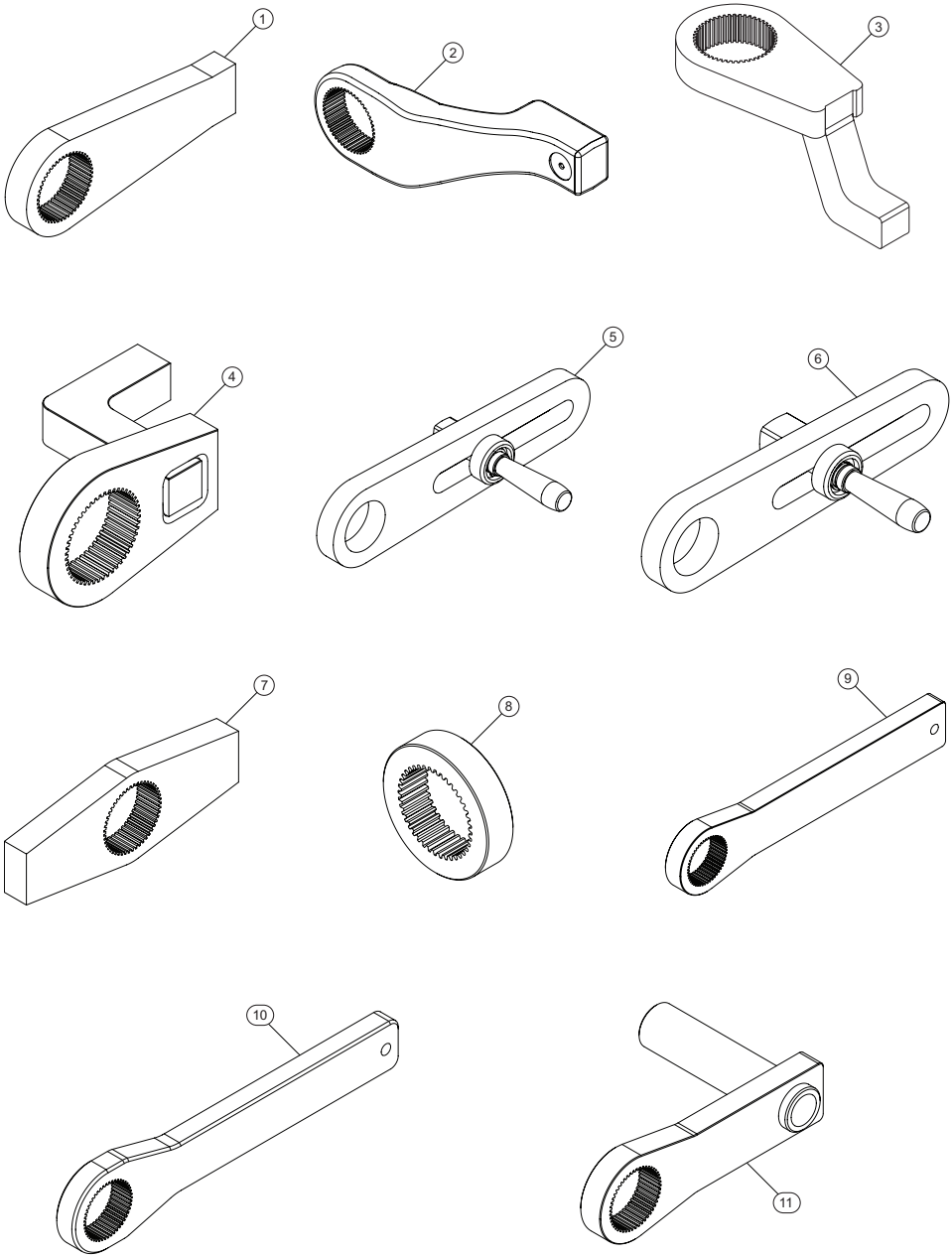




Reaction Options - NSP-A750-2700A - Parts List

Item	Part Description	Part Number (CCN)
1	Used with 19290 Series: 72 mm Reaction Tube	---
2	Reaction Arm, 72 mm, Double Sided, Straight, Steel, 7.87"	NSP-766-72STSD079
3	Reaction Arm, 72 mm, Straight, Steel, 6.97"	NSP-766-72STS070
4	Reaction Arm, 72 mm, Straight, Steel, 15.5"	NSP-766-72STS155
5	Reaction Arm, 72 mm, Straight, Steel, 10.0"	NSP-766-72ST
6	Reaction Arm, 52 mm, Straight, Aluminum, 15.5"	NSP-766-52STA155
7	Reaction Arm, 52 mm, Straight, Aluminum, 10.0"	NSP-766-52STA100
8	Weld Ring, 72 mm	NSP-766-72WR
9	Cranked Reaction Bar, 72 mm, Steel, 90 degree	NSP-766-72CR90

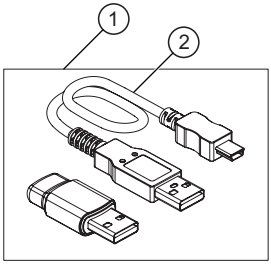
Reaction Options - NSP-A750-4000A and NSP-A750-6000A



Reaction Options - NSP-A750-4000A and NSP-A750-6000A - Parts List

Item	Part Description	Part Number (CCN)
1	Reaction Arm, 92 mm, Straight, Steel, 7.87"	NSP-766-92STS079
2	Cranked Reaction Arm, 92 mm, Aluminum	NSP-766-92CRA
3	Cranked Reaction Arm (Standard), 92 mm, Steel	NSP-766-92CR
4	Cranked Reaction Bar, Mid Section, 92 mm, Steel, 90 degree, 3.94"	NSP-766-92CR90039
5	Reaction Arm, 92 mm, Sliding Reaction Assembly, Straight, Steel, 1" Sq.	NSP-766-92SL08
6	Reaction Arm, 92 mm, Sliding Reaction Assembly, Straight, Steel, 1-1/2" Sq.	NSP-766-92SL12
7	Reaction Arm, 92 mm, Double Sided, Straight, Steel, 9.45"	NSP-766-92STSD095
8	Weld Ring, 92 mm	NSP-766-92WR
9	Reaction Arm, 92 mm, Straight, Steel, 15.5"	NSP-766-92STS155
10	Reaction Arm, 92 mm, Straight, Aluminum, 15.5"	NSP-766-92STA155
11	Reaction Arm, 92 mm, Plate and Peg, 8"	NSP-766-92PP080

QX Accessories (Optional)



QX Accessories (Optional) - Parts List

Item	Part Description	Part Number (CCN)
1	Communication Kit (USB Cable & ICS Software)	84737-COMM-KIT (48414460)
2	USB Cable	84737-CABLE-USB (48412613)

Parts and Maintenance

Use lithium-based, electrical contact grease with no particles for all electrical connections.

When tool life has expired, it is recommended that the tool be disassembled, degreased and parts separated by material for proper recycling.

Tool repair and maintenance should only be carried out by an Authorized Service Center.

Refer all communications to the nearest **Ingersoll Rand** office or distributor.

Related Documentation

Manuals can be downloaded from **ingersollrand.com**

For additional information, refer to:

Product Safety Information Manual TL-VP2T-SIM, TL-VP1T-SIM, and TL-VP1T-SIMV
Product Information Manual TL-VP2T-PIM
Maintenance Information Manual TL-VP2T-MIM

Notes:

ingersollrand.com

© 2023 Ingersoll Rand