



TL-VP2T-PLM  
Edition 2  
November 2022

# Precision Torque Multiplier

## QX Connect Multiplier Series

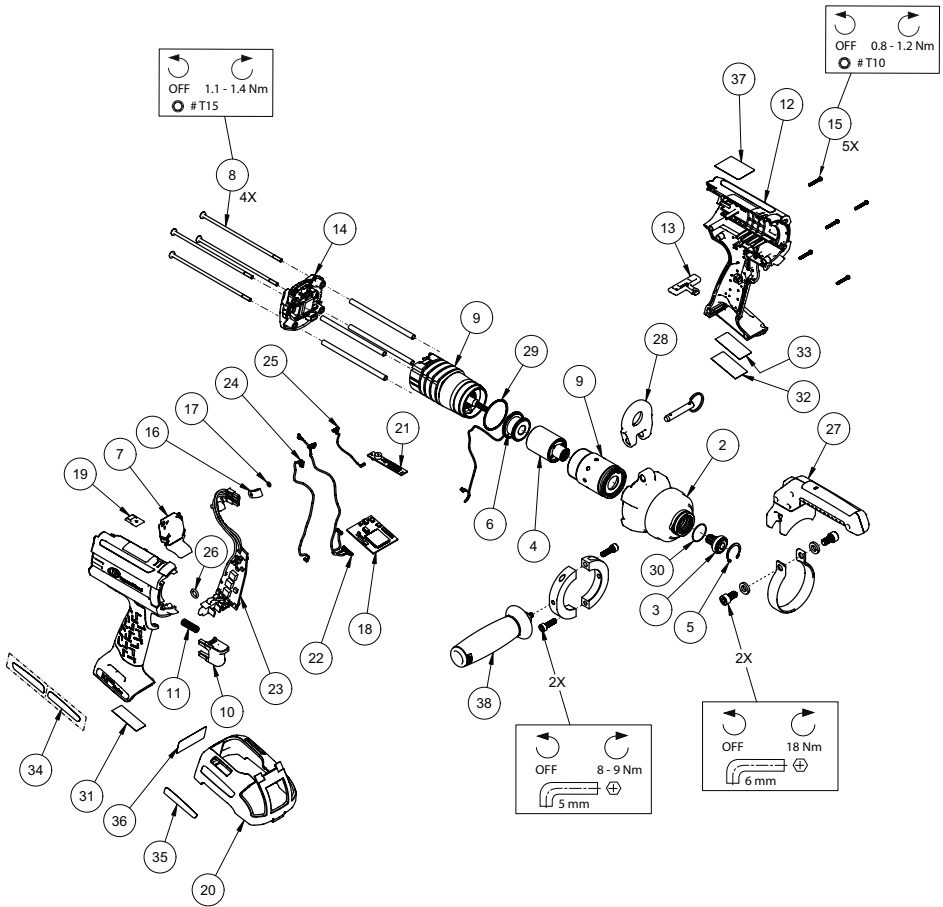
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# Parts Information



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

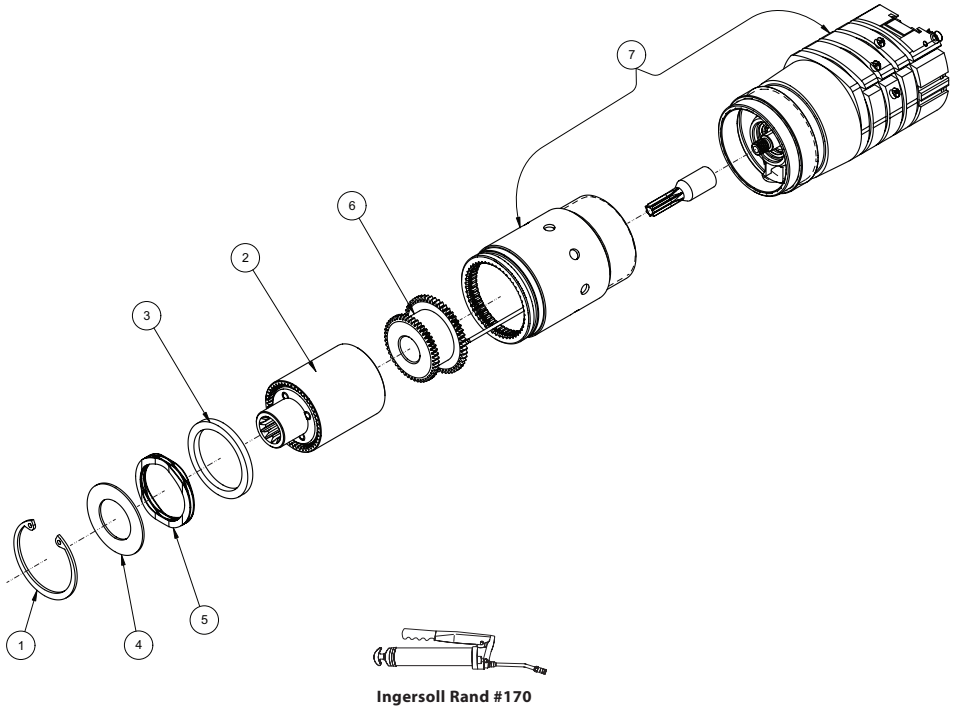


Use lithium-based, electrical contact grease with no particles for all electrical connections

## 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 Assy	VP2-A93
11	Spring	VP1-726 (47088356)
12	Handle Assembly	VP2-A59
13	Switch, F/R Assy	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

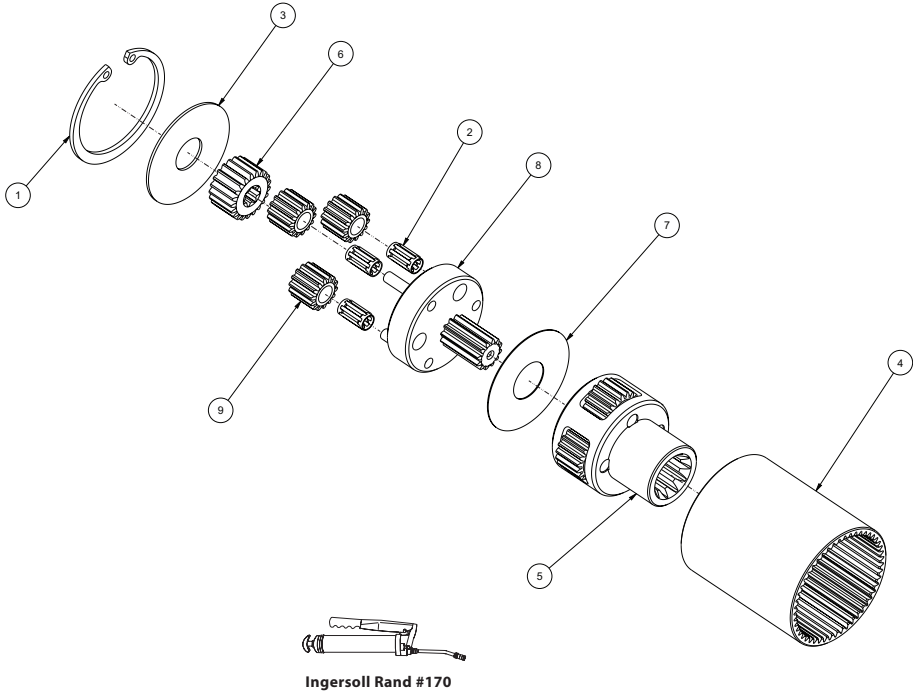
## Drive Module (VP2-A53) - Exploded View



## 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

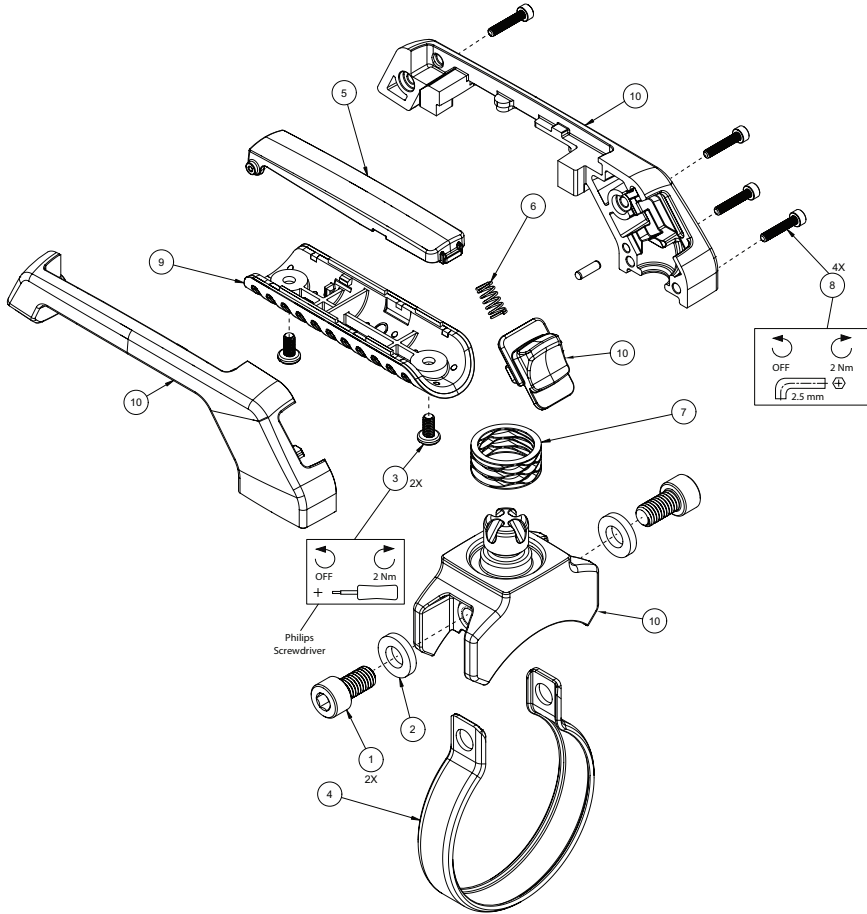
**Gear Pack Assembly (PN GEA40-17-M37) - Exploded View**



**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)

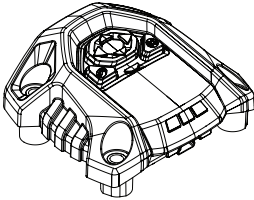
## QX5TM Auxiliary Handle Assembly (VP2-AAUX-T) - Exploded View



## QX5TM Auxiliary Handle Assembly (VP2-AAUX-T) - Parts List

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

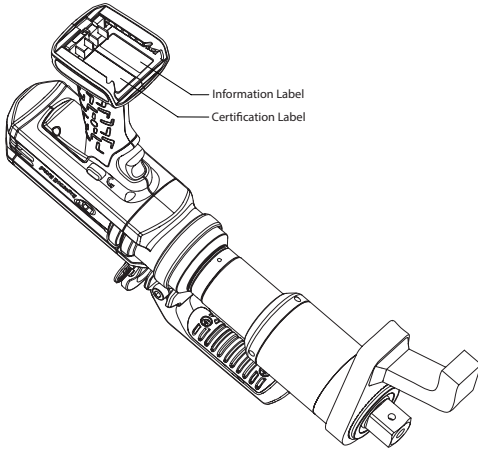
Back Cap Assembly - 40V Multiplier Tool	
Part Number (CCN)	Model Type
QXXD5PT000P000	QXXD5PT{ }P{ }
QXBD5PT000P000	QXBD5PT{ }P{ }
QXFD5PT000P000	QXFD5PT{ }P{ }

### Suggested Tools

Tool Used	Part Description	Where Used?
Torque Screwdriver	2Nm capacity	Housing and Back Cap Screws
T10 Torx Bit	---	Housing Screws
T15 Torx Bit	---	Back Cap Screws
Allen Wrench	6 mm	Auxiliary Band
Allen Wrench	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

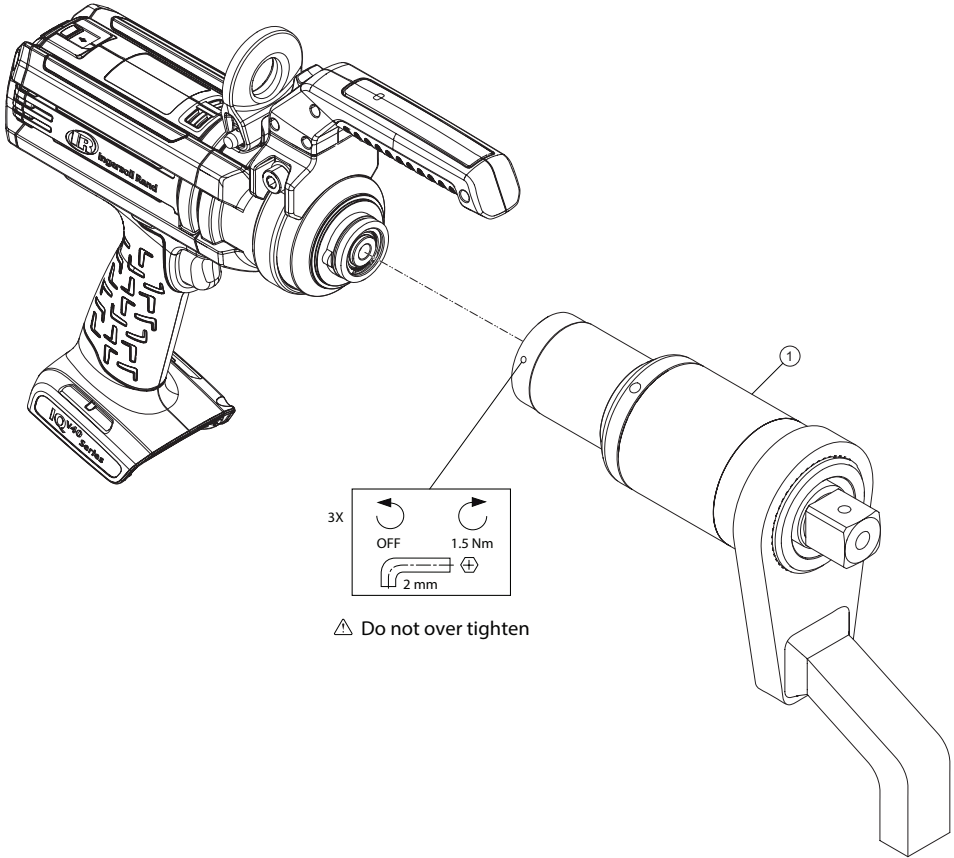
### Tool Assembly



**QX{ }5P**

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

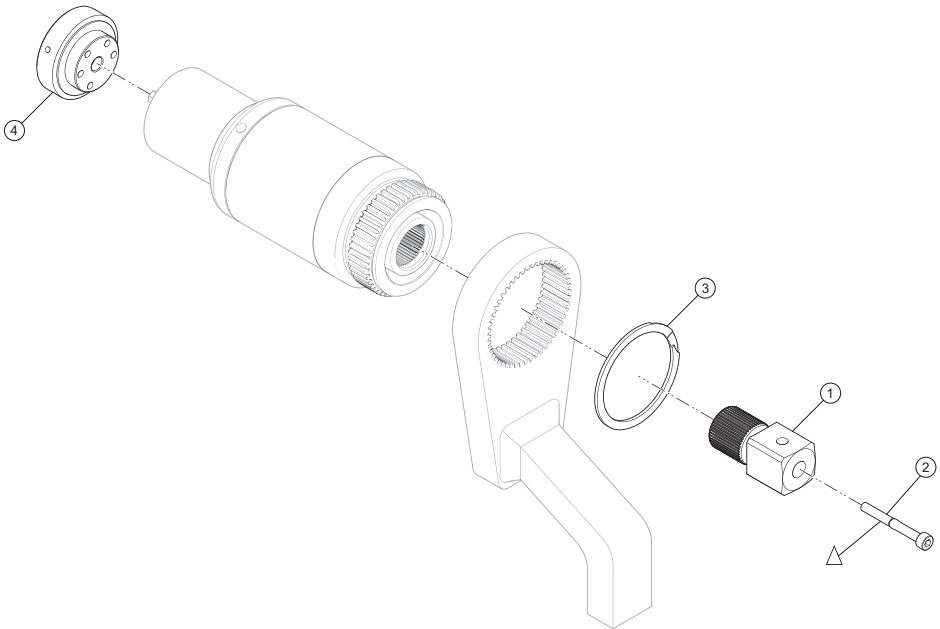
## Norbar Gearbox Assemblies



## Norbar Gearbox Assemblies - Parts List

Item	Part Description	Part Number (CCN)
1	GEARBOX ASSY, 200Nm W REACTION ARM	NSP-A750-200A
1	GEARBOX ASSY, 500Nm W REACTION ARM	NSP-A750-500A
1	GEARBOX ASSY, 1000Nm W REACTION ARM	NSP-A750-1000A
1	GEARBOX ASSY, 1350Nm W REACTION ARM	NSP-A750-1350A
1	GEARBOX ASSY, 2000Nm W REACTION ARM	NSP-A750-2000A
1	GEARBOX ASSY, 2700Nm W REACTION ARM	NSP-A750-2700A
1	GEARBOX ASSY, 4000Nm W REACTION ARM	NSP-A750-4000A
1	GEARBOX REACTION ARM ASSY, 1000Nm WHEEL, 1 INCH 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

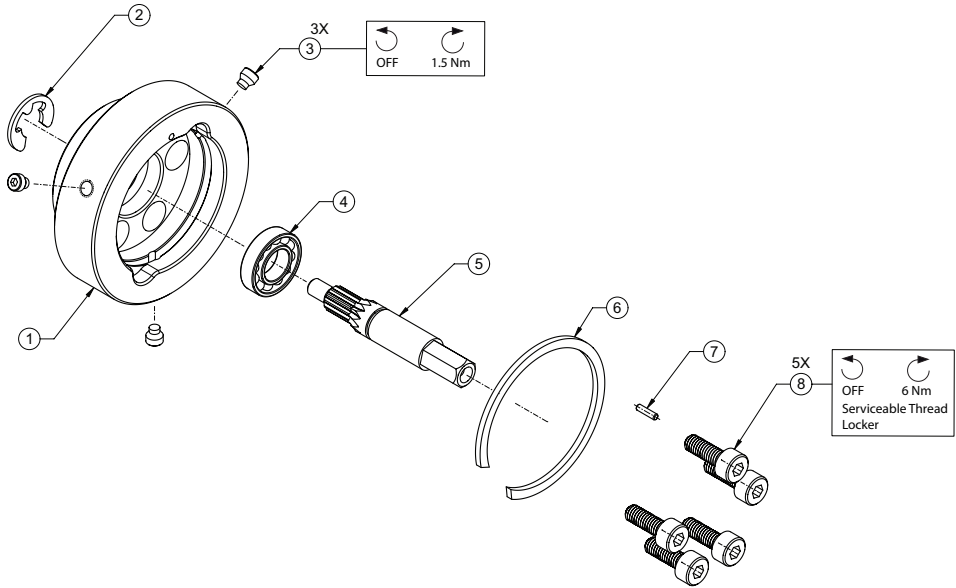
## Square Drive Retaining Screw Torque Spec Δ

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

1000Nm Truck Lane	<p><b>For 1000Nm, 1" Square Wheel Applications:</b></p> <p>Apply blue thread locker to square drive retaining screw. Tighten to 1Nm and then loosen 180 degrees to set screw position.</p> <p>Allow 12 hours cure time minimum.</p> <p>Note: Minimum Square Drive Gap Shall be 0.4mm</p>
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Note: Apply Serviceable Thread Locker to Retaining Screw (Item 2)

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



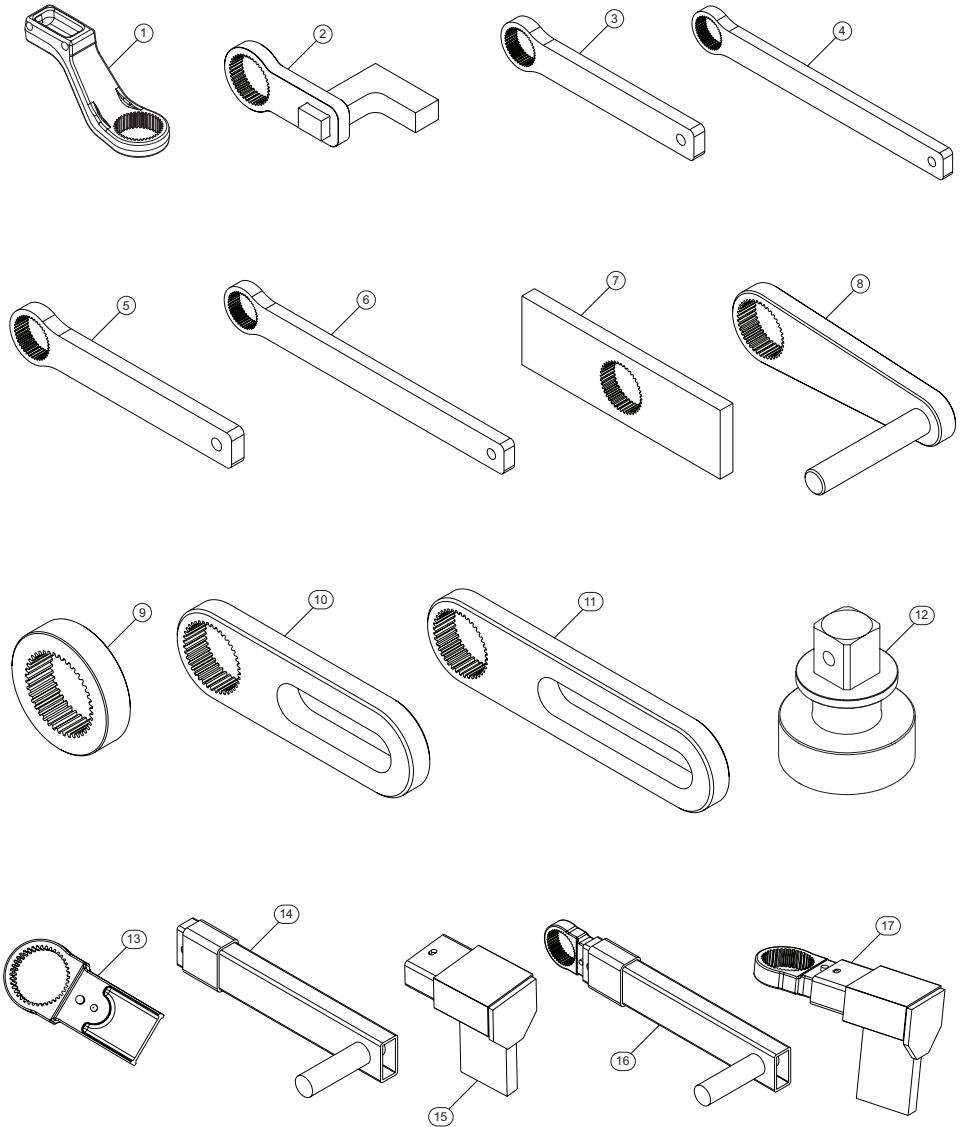
## Norbar Adapter Assembly Kit (NSP-766-W2222) - Parts List

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)	253965.4
4	Ball Bearing	27308
5	Drive Shaft, Hex	19143
6	Retaining Ring	265150
7	Press Pin	27125
8	M4 SHCS (Serviceable Thread Locker + 6Nm) (5 required)	25351.12

## Suggested Tools

Tool Used	Part Description	Where Used?
Allen Wrench	2 mm	Norbar Gearbox Assembly onto IR Power Unit
Allen Wrench	2.5 mm	IR to Norbar Adapter Assembly
Allen Wrench	3 mm	Norbar Square Drive (200Nm and 500Nm gearboxes)
Allen Wrench	4 mm	Norbar Square Drive (1000Nm - 4000Nm gearboxes)
Flat Head Screw Driver	---	Norbar Reaction Bar

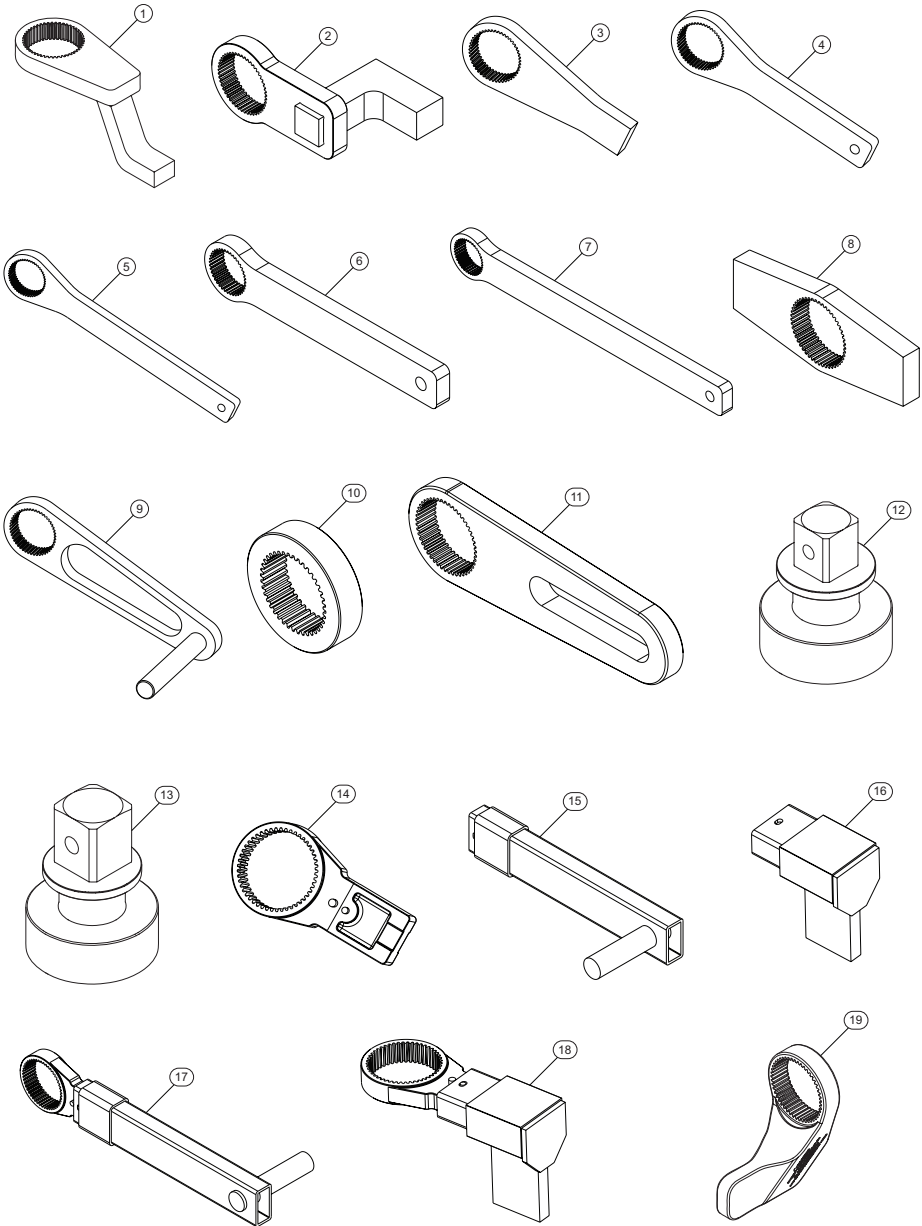
Reaction Options - NSP-A750-200A and NSP-A750-500A



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

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

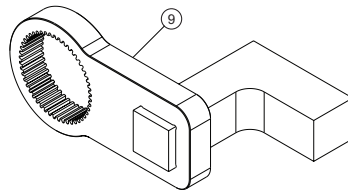
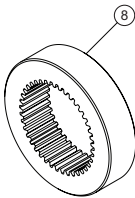
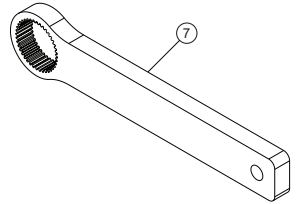
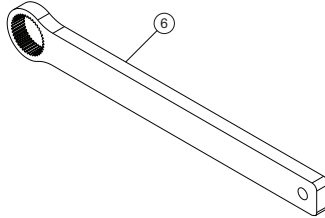
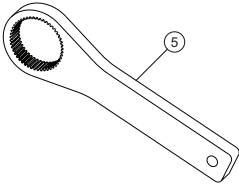
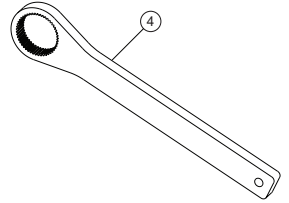
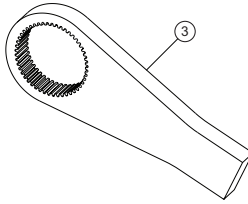
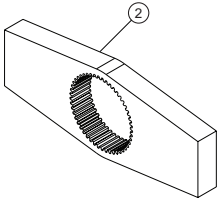
Reaction Options - NSP-A750-1000A, NSP-A750-1350A, and NSP-A750-2000A



## 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) - 72mm, Steel	NSP-766-72CR
2	Cranked Reaction Bar, 72mm, Steel, 90 DEGS	NSP-766-72CR90
3	Reaction Arm, 72mm, Straight, Steel, 6.97"	NSP-766-72STS070
4	Reaction Arm, 72mm, Straight, Steel, 10.0"	NSP-766-72ST
5	Reaction Arm, 72mm, Straight, Steel, 15.5"	NSP-766-72STS155
6	Reaction Arm, 52mm, Straight, Aluminum, 10.0"	NSP-766-52STA100
7	Reaction Arm, 52mm, Straight, Aluminum, 15.5"	NSP-766-52STA155
8	Reaction Arm, 72mm, Double Sided, Straight, Steel, 7.87"	NSP-766-72STD079
9	Reaction Arm, 72mm, Plate and Peg, 10"	NSP-766-72PP100
10	Weld Ring, 72mm	NSP-766-72WR
11	Reaction Arm, 72mm, Sliding Plate for Sliding Slave Square, Straight, Steel, 8.0"	NSP-766-72SL
12	Slave Square Kit for Sliding Reaction Arm, 1000, 1350, 2000 N-m (3/4" Square)	NSP-766-72SLK12
13	Slave Square Kit for Sliding Reaction Arm, 1000, 1350, 2000 N-m (1" Square)	NSP-766-72SLK16
14	Reaction Arm, 72mm, Yoke	NSP-766-72Y
15	Reaction Arm 52/72mm, Yoke Tube and Peg, Steel	NSP-766-52-72YTP
16	Reaction Arm 52/72mm, Yoke Tube and Paddle, Steel	NSP-766-52-72YP
17	Reaction Adapter 72mm Yoke & Tube Assembly 11.7"	NSP-766-72YTA
18	Reaction Adapter 72mm Yoke & Paddle Assembly	NSP-766-72YPA
19	Reaction Arm, Short	TP-NSP-766-72WS

Reaction Options - NSP-A750-2700A

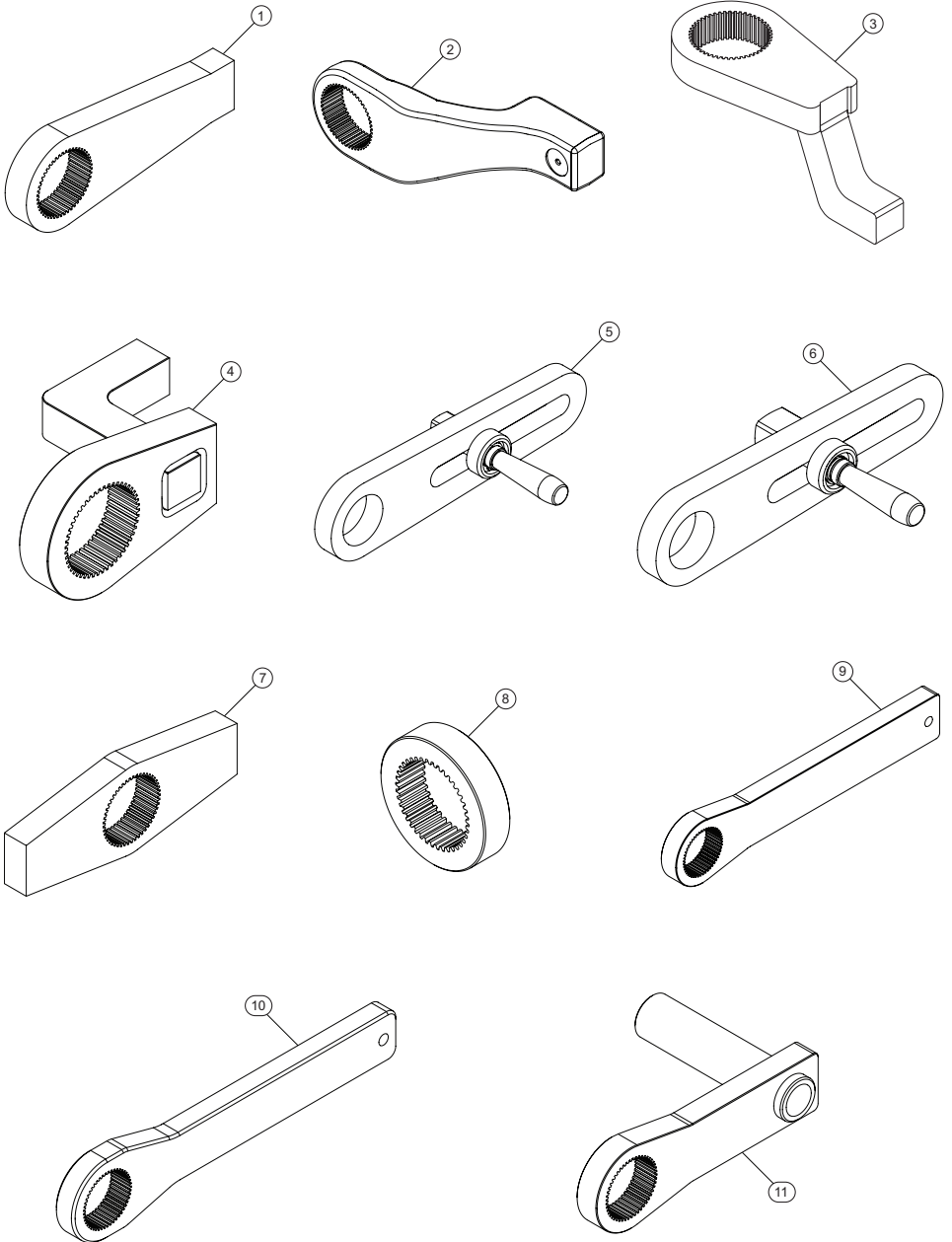


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**Reaction Options - NSP-A750-2700A - Parts List**

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

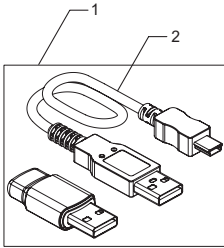
Reaction Options - NSP-A750-4000A



## Reaction Options - NSP-A750-4000A - Parts List

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

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