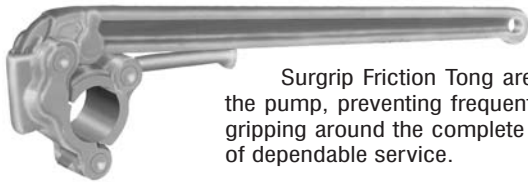


PETOL SURGRIP FRICTION TONGS

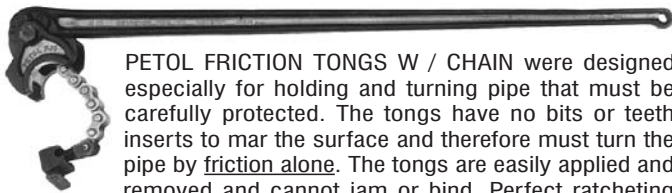


PETOL SURGRIP FRICTION TONGS are designed to makeup and breakout pump sections without marring the pump barrel or rod surfaces. Features of the Surgrip Friction Tong are its high quality steel construction, and the ability to ratchet after being applied to the pump, preventing frequent wrench adjustments and removal. Three precision machined jaws provide friction gripping around the complete circumference of the pump. Every piece of the tong is heat-treated to assure years of dependable service.

| CATALOG NO. | O.D. | GRIPPING WIDTH | WEIGHT | MAXIMUM WORKING LOAD | CATALOG NO. | O.D. | GRIPPING WIDTH | WEIGHT | MAXIMUM WORKING LOAD |
|---------------------|--------|----------------|-------------|----------------------|-------------------------------------------------------------------------------------|--------|----------------|-------------|----------------------|
| ZT1:0.625 | 0.625" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.125 | 2.125" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.688 | 0.688" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.188 | 2.188" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.750 | 0.750" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.228 | 2.228" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.812 | 0.812" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.250 | 2.250" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.875 | 0.875" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.302 | 2.302" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.938 | 0.938" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.312 | 2.312" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:0.969 | 0.969" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.340 | 2.340" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:1.000 | 1.000" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT3:2.375 | 2.375" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. |
| ZT1:1.031 | 1.031" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.375 | 2.375" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.062 | 1.062" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.500 | 2.500" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.125 | 1.125" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.562 | 2.562" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.125H | 1.250" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.625 | 2.625" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.138 | 1.138" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.688 | 2.688" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.144 | 1.144" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.750 | 2.750" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.188 | 1.188" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.812 | 2.812" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT1:1.250 | 1.250" | 2.25" | 6-1/2 lbs. | 500 ft.-lbs. | ZT4:2.875 | 2.875" | 3.00" | 20 lbs. | 3,000 ft.-lbs. |
| ZT2:1.312 | 1.312" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.000 | 3.000" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.375 | 1.375" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.062 | 3.062" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.438 | 1.438" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.125 | 3.125" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.500 | 1.500" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.200 | 3.200" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.625 | 1.625" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.250 | 3.250" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.688 | 1.688" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.375 | 3.375" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT2:1.750 | 1.750" | 2.50" | 10-1/2 lbs. | 1,200 ft.-lbs. | ZT5:3.500 | 3.500" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT3:1.625 | 1.625" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | ZT5:3.625 | 3.625" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| (for rod couplings) | | | | | ZT5:3.688 | 3.688" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT3:1.750 | 1.750" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | ZT5:3.750 | 3.750" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT3:1.812 | 1.812" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | ZT5:3.875 | 3.875" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT3:1.875 | 1.875" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | ZT5:4.000* | 4.000" | 3.50" | 45 lbs. | 4,500 ft.-lbs. |
| ZT3:1.938 | 1.938" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | SPECIAL O.D. SIZES AVAILABLE UPON REQUEST. SPECIAL SIZES ARE NON-RETURNABLE. | | | | |
| ZT3:1.960 | 1.960" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | * FOR SIZES LARGER THAN 4.000", SEE PETOL FRICTION TONGS W / CHAIN. | | | | |
| ZT3:2.000 | 2.000" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | | | | | |
| ZT3:2.062 | 2.062" | 2.50" | 11-1/2 lbs. | 2,300 ft.-lbs. | | | | | |

WARNING! Protect yourself and others from SERIOUS INJURY!
Never use a "cheater" or other means to extend handle!
If wrench slips you can be hurt or injure other workers!

PETOL FRICTION TONGS W / CHAIN



PETOL FRICTION TONGS W / CHAIN were designed especially for holding and turning pipe that must be carefully protected. The tongs have no bits or teeth inserts to mar the surface and therefore must turn the pipe by friction alone. The tongs are easily applied and removed and cannot jam or bind. Perfect ratcheting

action and efficient performance are assured. When ordering, make sure to specify the exact O.D. on which the tongs are to be used.

| CATALOG NO. | O.D. | HANDLE LENGTH | GRIPPING WIDTH | WEIGHT | MAXIMUM WORKING LOAD |
|-------------|--------|---------------|----------------|---------|----------------------|
| FA3:3.000 | 3.000" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:3.125 | 3.125" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:3.250 | 3.250" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:3.500 | 3.500" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:3.625 | 3.625" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:3.750 | 3.750" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA3:4.000 | 4.000" | 51" | 4.31" | 50 lbs. | 10,000 ft.-lbs. |
| FA4:4.000 | 4.000" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FA4:4.125 | 4.125" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FA4:4.250 | 4.250" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FA4:4.500 | 4.500" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FA4:4.750 | 4.750" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |

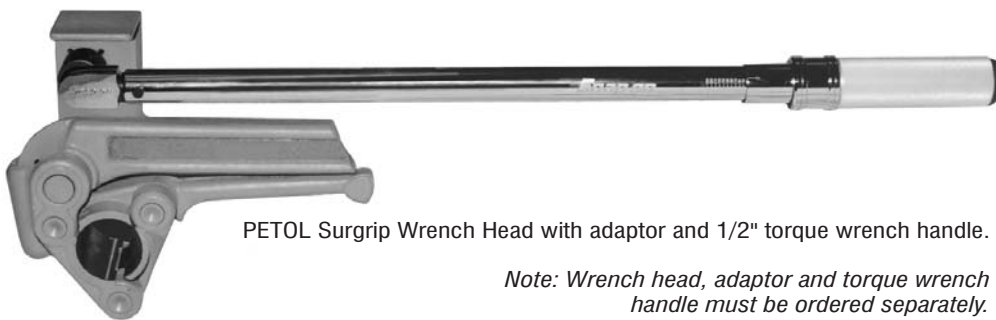
| CATALOG NO. | O.D. | HANDLE LENGTH | GRIPPING WIDTH | WEIGHT | MAXIMUM WORKING LOAD |
|-------------|--------|---------------|----------------|---------|----------------------|
| FA4:5.000 | 5.000" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FA4:5.375 | 5.375" | 46" | 4.31" | 54 lbs. | 12,500 ft.-lbs. |
| FAS4:4.000 | 4.000" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:4.125 | 4.125" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:4.250 | 4.250" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:4.500 | 4.500" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:4.750 | 4.750" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:5.000 | 5.000" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |
| FAS4:5.375 | 5.375" | 28" | 4.31" | 45 lbs. | 12,500 ft.-lbs. |

SPECIAL O.D. SIZES AVAILABLE UPON REQUEST. SPECIAL SIZES ARE NON-RETURNABLE.

WARNING!
Do Not Exceed Maximum Working Load.
Overloading may result in injury or death.
Always use a load cell or other calibrated indicating device to monitor the line pull on the tong to avoid overload.
Read Safe Practices & Procedures Manual prior to operation.
Follow OSHA, NSC, etc. standards, safe practices, and procedures.

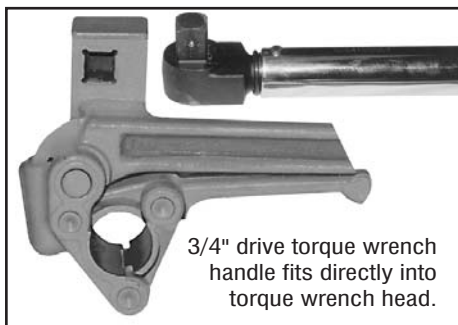
NOTE: SAFE PRACTICES & PROCEDURES MANUAL CAN BE FOUND ON PAGES 1-7 OF THIS CATALOG.

PETOL SURGRIP TORQUE WRENCH



PETOL Surgrip Wrench Head with adaptor and 1/2" torque wrench handle.

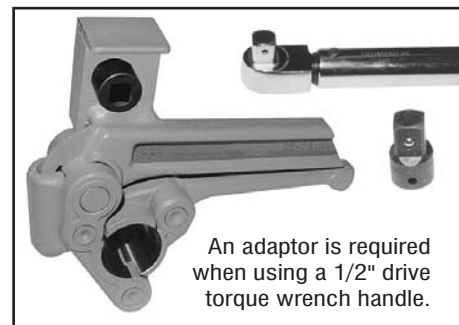
Note: Wrench head, adaptor and torque wrench handle must be ordered separately.



3/4" drive torque wrench handle fits directly into torque wrench head.

PETOL SURGRIP TORQUE WRENCHES offer exact measurement in ft.-lbs. of torque when making up pump parts. Each wrench is bored to grip a specific O.D. by friction alone and will not mar the surface of the parts.

These wrenches offer the features of the PETOL Surgrip Friction Tong and can be used with any 1/2" or 3/4" drive "click-type" torque wrench handle.



An adaptor is required when using a 1/2" drive torque wrench handle.

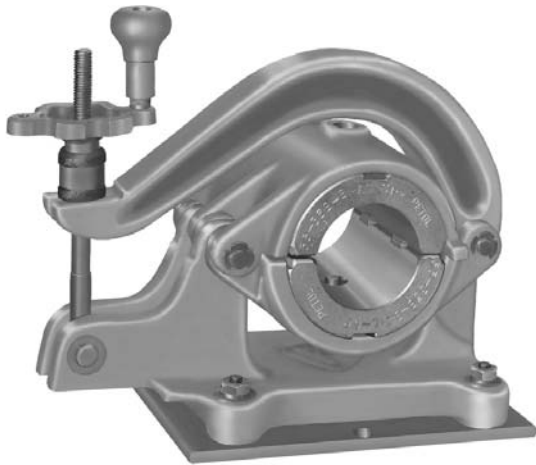
| CATALOG NO. | ITEM DESCRIPTION | LENGTH | WEIGHT | MAXIMUM WORKING LOAD |
|-------------|----------------------|----------|-------------|----------------------|
| ZT250M | Torque Wrench Handle | 23-3/16" | 3-1/2 lbs. | 250 ft.-lbs. |
| ZT600M | Torque Wrench Handle | 40-3/4" | 11-1/2 lbs. | 600 ft.-lbs. |
| ZT50A | 1/2" Drive Adaptor | n/a | 6 ozs. | n/a |

NOTE: If using ZT600M Torque Handle with ZT1 Wrench Heads, DO NOT EXCEED 500 ft.-lbs.

| CATALOG NO. | O.D. | GRIPPING WIDTH | WEIGHT | CATALOG NO. | O.D. | GRIPPING WIDTH | WEIGHT |
|------------------------------------------------------------------------|--------|----------------|-------------|-------------------------------------------------------------------------------------|--------|----------------|-------------|
| ZT1:0.625T | 0.625" | 2.25" | 6-1/2 lbs. | ZT3:2.125T | 2.125" | 2.50" | 10-1/2 lbs. |
| ZT1:0.688T | 0.688" | 2.25" | 6-1/2 lbs. | ZT3:2.188T | 2.188" | 2.50" | 10-1/2 lbs. |
| ZT1:0.750T | 0.750" | 2.25" | 6-1/2 lbs. | ZT3:2.228T | 2.228" | 2.50" | 10-1/2 lbs. |
| ZT1:0.812T | 0.812" | 2.25" | 6-1/2 lbs. | ZT3:2.250T | 2.250" | 2.50" | 10-1/2 lbs. |
| ZT1:0.875T | 0.875" | 2.25" | 6-1/2 lbs. | ZT3:2.302T | 2.302" | 2.50" | 10-1/2 lbs. |
| ZT1:0.938T | 0.938" | 2.25" | 6-1/2 lbs. | ZT3:2.312T | 2.312" | 2.50" | 10-1/2 lbs. |
| ZT1:0.969T | 0.969" | 2.25" | 6-1/2 lbs. | ZT3:2.340T | 2.340" | 2.50" | 10-1/2 lbs. |
| ZT1:1.000T | 1.000" | 2.25" | 6-1/2 lbs. | ZT3:2.375T | 2.375" | 2.50" | 10-1/2 lbs. |
| ZT1:1.031T | 1.031" | 2.25" | 6-1/2 lbs. | ZT4:2.375T | 2.375" | 3.00" | 15-3/4 lbs. |
| ZT1:1.062T | 1.062" | 2.25" | 6-1/2 lbs. | ZT4:2.500T | 2.500" | 3.00" | 15-3/4 lbs. |
| ZT1:1.125T | 1.125" | 2.25" | 6-1/2 lbs. | ZT4:2.562T | 2.562" | 3.00" | 15-3/4 lbs. |
| ZT1:1.138T | 1.138" | 2.25" | 6-1/2 lbs. | ZT4:2.625T | 2.625" | 3.00" | 15-3/4 lbs. |
| ZT1:1.144T | 1.144" | 2.25" | 6-1/2 lbs. | ZT4:2.688T | 2.688" | 3.00" | 15-3/4 lbs. |
| ZT1:1.188T | 1.188" | 2.25" | 6-1/2 lbs. | ZT4:2.750T | 2.750" | 3.00" | 15-3/4 lbs. |
| ZT1:1.250T | 1.250" | 2.25" | 6-1/2 lbs. | ZT4:2.812T | 2.812" | 3.00" | 15-3/4 lbs. |
| NOTE: Maximum Working Load for ZT1 Wrench Heads is 500 ft.-lbs. | | | | ZT4:2.875T | 2.875" | 3.00" | 15-3/4 lbs. |
| ZT2:1.312T | 1.312" | 2.50" | 9 lbs. | ZT5:3.000T | 3.000" | 3.50" | 24 lbs. |
| ZT2:1.375T | 1.375" | 2.50" | 9 lbs. | ZT5:3.062T | 3.062" | 3.50" | 24 lbs. |
| ZT2:1.438T | 1.438" | 2.50" | 9 lbs. | ZT5:3.125T | 3.125" | 3.50" | 24 lbs. |
| ZT2:1.500T | 1.500" | 2.50" | 9 lbs. | ZT5:3.200T | 3.200" | 3.50" | 24 lbs. |
| ZT2:1.625T | 1.625" | 2.50" | 9 lbs. | ZT5:3.250T | 3.250" | 3.50" | 24 lbs. |
| ZT2:1.688T | 1.688" | 2.50" | 9 lbs. | ZT5:3.375T | 3.375" | 3.50" | 24 lbs. |
| ZT2:1.750T | 1.750" | 2.50" | 9 lbs. | ZT5:3.500T | 3.500" | 3.50" | 24 lbs. |
| ZT3:1.625T | 1.625" | 2.50" | 10-1/2 lbs. | ZT5:3.625T | 3.625" | 3.50" | 24 lbs. |
| ZT3:1.750T | 1.750" | 2.50" | 10-1/2 lbs. | ZT5:3.688T | 3.688" | 3.50" | 24 lbs. |
| ZT3:1.812T | 1.812" | 2.50" | 10-1/2 lbs. | ZT5:3.750T | 3.750" | 3.50" | 24 lbs. |
| ZT3:1.875T | 1.875" | 2.50" | 10-1/2 lbs. | ZT5:3.875T | 3.875" | 3.50" | 24 lbs. |
| ZT3:1.938T | 1.938" | 2.50" | 10-1/2 lbs. | ZT5:4.000T | 4.000" | 3.50" | 24 lbs. |
| ZT3:1.960T | 1.960" | 2.50" | 10-1/2 lbs. | SPECIAL O.D. SIZES AVAILABLE UPON REQUEST. SPECIAL SIZES ARE NON-RETURNABLE. | | | |
| ZT3:2.000T | 2.000" | 2.50" | 10-1/2 lbs. | | | | |
| ZT3:2.062T | 2.062" | 2.50" | 10-1/2 lbs. | | | | |

WARNING!
 Protect yourself and others from **SERIOUS INJURY!**
 Do Not Exceed Maximum Working Load!
 Follow OSHA, NSC, etc. standards, safe practices and procedures.

PETOL SURGRIP FRICTION VISE



PETOL SURGRIP FRICTION VISES provide oil field pump manufacturers and pump repair shops with a friction vise having superior noncrushing and nonmarring features for use in final assembly or repair of sub-surface pumps.

Surgrip Friction Vises come in two sizes, ZV35-52 and ZV55-54. Interchangeable aluminum bushings are available to meet specific O.D. requirements. See list of bushing sizes on page 59.

The ZV55-54 PETOL Surgrip Friction Vise can be fitted with special adaptor bushings enabling it to handle all the smaller O.D.'s of the ZV35-52.

Note:
Vise Plate, Vise Plate Bolts & Nuts and Vise Bushings must be ordered separately.

| CATALOG NO. | ITEM DESCRIPTION | WEIGHT |
|----------------|---------------------------------------------------------------------------|----------------|
| ZV35-52 | PETOL Surgrip Friction Vise w / 2" Nut | 43 lbs. |
| ZV35-54 | PETOL Surgrip Friction Vise w / 4" Nut | 44 lbs. |
| ZV35-1 | PETOL Surgrip Friction Vise Plate | 9-1/4 lbs. |
| HB38 | PETOL Surgrip Friction Vise Plate Bolt & Nut Assembly (4 req'd. per vise) | 2 ozs. |
| HP302 | PETOL Surgrip Friction Vise Plate Lock Pin | 4 ozs. |
| ZV55-54 | PETOL Surgrip Friction Vise w / 4" Nut | 68 lbs. |
| ZV55-1 | PETOL Surgrip Friction Vise Plate | 10-1/4 lbs. |
| HB39 | PETOL Surgrip Friction Vise Plate Bolt & Nut Assembly (4 req'd. per vise) | 2 ozs. |
| HP302 | PETOL Surgrip Friction Vise Plate Lock Pin | 4 ozs. |
| ZUV55-35A | PETOL Surgrip Friction Vise Adaptor Bushings (includes 2 ea. ZUV55-35B-8) | 8-1/8 lbs. |
| ZUV55-35B-8 | PETOL Surgrip Friction Vise Adaptor Bushing Plunger Assembly | 1-3/4 ozs. |

NOTE: PARTS MAY VARY SLIGHTLY AMONG SIZES. CALL FACTORY FOR DETAILS.

| KEY NO. | ITEM DESCRIPTION | NO. REQ'D. |
|---------------------------------------|---------------------------------------------|------------|
| WISE BALL BEARING NUT ASSEMBLY | | |
| 1,2,3 | WISE NUT HANDLE BOLT , NUT, & LOCK WASHER | 1 |
| 4 | WISE NUT HANDLE GRIP | 1 |
| 5 | WISE NUT HANDLE | 1 |
| 6 | WISE NUT CLIP RING | 1 |
| 7 | WISE NUT BEARING COMPLETE | 1 |
| 8 | WISE NUT SLEEVE | 1 |
| 9 | WISE NUT CLAMPING SCREW | 1 |
| 10,11 | WISE BASE CLAMPING SCREW RIVET W / KLIPRING | 1 |
| 12 | WISE BASE | 1 |
| 13 | WISE BASE BUSHING | 1 |
| 14 | WISE BASE SPRING | 1 |
| 15 | WISE BASE SET SCREW | 1 |
| 16,17,18,19 | PLATE BOLT & NUT ASSEMBLY | 4 |
| 20,21 | WISE JAW RIVET W / KLIPRINGS | 2 |
| 22 | WISE BUSHING PLUNGER ASSEMBLY | 2 |
| 23 | WISE CLAMPING ARM | 1 |
| 24 | WISE LOWER JAW | 1 |
| 25 | WISE BUSHING KEY | 4 |
| 26 | WISE BUSHING KEY SCREW | 4 |
| 27 | WISE UPPER JAW | 1 |

