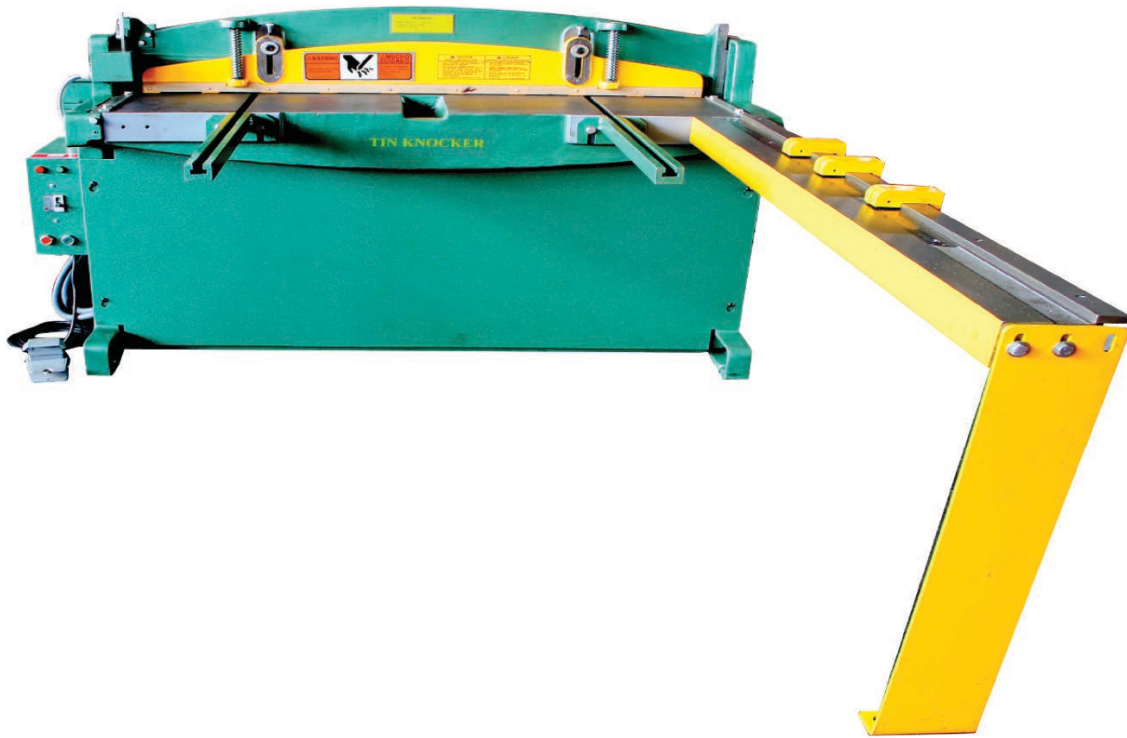


# TIN KNOCKER TK H1652 Hydraulic Shear

## INSTRUCTIONS & PARTS DIAGRAM



RED RIVER MACHINERY  
1-800-729-0759  
[www.redrivermachinery.com](http://www.redrivermachinery.com)

# **TIN KNOCKER**

## **SAFETY RULES**

### **TK H1652 FOOT Shear**

- 1) **WARNING:** Electrical hazard – improper use or installation of machinery connected to a source of electricity may result in accidental shock that could cause injury or death. Installation must conform to National Electric Code (Article 250 – Grounding, etc.)

A trained and qualified electrician must make electrical connections. Electrical characteristics shown on motor plate and control panel must match the power source; and all electrically powered equipment must be grounded.

- 2) Machine to be operated by authorized staff who have been trained by their supervisor with the working and safety features of the machine, and by reading and understanding the Operator's Manual.
- 3) Do not work the Hydraulic Shear without reading Operator's Manual and without proper supervisory instructions.
- 4) Perform all installations and set-up operations before applying power for electrical start-up.
- 5) Do not leave machine running unattended. When not in use, turn off electrical power.
- 6) Never work machine with any guard removed; i.e., all required guarding to be installed and effective. Do not override the safety features of the equipment. Do not remove, paint over, alter, or deface any machine-mounted warning and instruction plates and signs.
- 7) Do not work machine if servicing is needed.
- 8) Be alert to all potential hazards. Notify your supervisor whenever you feel there is a hazard involving the equipment or the performance of your job.
- 9) Avoid accidental start-up.
- 10) Wear proper safety equipment while operating machine.
- 11) Adjust machine while it is off.
- 12) Keep work area clear and in appropriate order.

## WARRANTY

All new machines are sold with a one-year limited warranty, on factory defective parts. The warranty is limited to the original user. TAAG Machinery Co. at its option, will repair, replace or refund the purchase price of any part, tool or machine that fails during the warranty period. TAAG Machinery Co. will pay normal shipping charges for replacement parts. After 90 days from date of purchase, all express or overnight delivery charges are the responsibility of the customer. Purchaser must deliver to TAAG Machinery Co., at the address below, any written claim, with proof of original purchase. Replacement parts will be invoiced to purchaser and credit issued when the failed part is delivered to TAAG Machinery Co. Removal, reinstallation or replacement parts shall be at purchasers' / user's expense. Failure due to improper use of the machine voids the warranty.

**NOTE: 1.** This machine has been tested and adjusted prior to shipment, but can and often does require readjustment due to vibration and bouncing during transport. Following the procedures described within can easily do readjustment. These are procedures with which you, as a user, should be familiar, as you will use them repeatedly over the life use of the machine. If you have difficulty in performing these procedures, we are here to support you.

## **SPECIFICATIONS**

<b>Weight</b>	1350 lbs.
<b>Dimensions</b>	72 x 48 x 36 in.
<b>Maximum Shearing Capacity, mild steel</b>	16 ga. / 1,6 mm
<b>Maximum Shearing Capacity, stainless steel</b>	20 ga. / 1,0 mm
<b>Maximum Cutting Length</b>	52 in. / 1320 mm
<b>Back Gauge Range</b>	30 in. / 762 mm
<b>Front Gauge Range</b>	37 in. / 940 mm
<b>Standard Motor</b>	3 hp. – 220 Volt / 1 Phase / 60 Hz
<b>Floor Space, Gauge in Position</b>	66 x 76 x 42 in. / 1676 x 1930 x 1070 mm

## INSTRUCTIONS FOR TK H1652 HYDRAULIC SHEAR

### **BEFORE OPERATING:**

1. This shear has been tested to capacity at the factory and at our warehouse. Please do not exceed rated capacity on the nameplate. Test cut to capacity to see if the shear is still in adjustment.
2. Fill the reservoir with a premium grade fluid. For machine tool feed and similar applications at pressures to 1500 psi and temperatures to 130 Fahrenheit, a fluid viscosity of 150 SSU @ 100 degrees Fahrenheit is accepted. For higher pressures and temperatures (150 degrees Fahrenheit max) a fluid viscosity from 225 to 325 SSU @ 100 degrees Fahrenheit will offer maximum pump service life. When using high viscosity fluids (325 or above) a heater must be used to heat the oil to 80 Fahrenheit minimum before start-up. For cold start-up applications at temperatures down to 0 degrees Fahrenheit automatic transmission fluid, type A, will usually prove suitable.
3. Attach the motor to the appropriate electrical source, examining the motor nameplate for correct wiring if dual voltage motors. Jog the motor to test rotation. Poly phase motors are bidirectional and correct rotation can be achieved by reversing any two power leads. The electrical characteristics for valves are

displayed on the nametag. **WARNING:** Simultaneously energizing both solenoids on double solenoid valves will result in coil burnout.

4. Systems pressures must be set as low as possible to avoid unneeded fluid heating. On some applications, this may be from 50 to 200 psi above required static pressures to overcome dynamic pressure drop or to achieve correct acceleration.
5. Crackle and pump noise is most frequently caused by air entering the pump suction. The tightening of the suction fittings will typically eliminate such problems. If the pump fails to prime, vent pump discharge to atmosphere to create fluid flow.
6. The fluid level should be preserved so it always displays in the sight gauge. This is of absolute importance when an immersion type heat exchanger is utilized to prevent condensation from gathering on uncovered cooling coils.
7. After the first few hours operation any foreign material from the system plumbing will be flushed into the reservoir. It is good practice to drain and replace the initial filling, and to clean the reservoir and suction strainer.
8. For most industrial applications, an operating temperature of 150 degrees Fahrenheit is considered maximum. At higher temperatures, it is challenging to maintain reliable and consistent hydraulic control, component service life is reduced, hydraulic fluid deteriorates, and a potential danger to operating personnel is generated.
9. It is recommended that at least once a year or every 4,000 operation hours, the reservoir suction strainer and air vent filter should be cleaned. Now check the entire system for potential future problems. Some application or environmental conditions may dictate such maintenance be performance at more frequent intervals.

## **INSTRUCTIONS FOR TK H1652 HYDRAULIC SHEAR**

### **INSTALLATION & SET-UP: SHEAR**

To begin setting up shear you must first remove from skid and place it on a level foundation. Remove front & rear panels then proceed to loosen all leg-to-bed bolts, (37) & (38). Loosen 2 upper bed adjusting screws, (39), by 2 full turns then tighten 2 lower adjusting screws, (40), only 1 complete turn. By doing this you can move the bed and lower the shear blade away from the crosshead blade. Double check that the bed is completely level from all sides. After ensuring that bed is level, the shear must be properly bolted to foundation. With bed level in both directions, shear must be securely bolted to foundation. After confirming everything is leveled and secured, remove the upper cylinder hinge pins. Tighten the leg-to-bed bolts to allow take up on adjusting screws (39) and (40). Insert a 1/2" diameter rod, around 18" long into the "welded on block" at the lower left side of the lever assembly, (11). This bar will serve as a lever that can lower and raise the crosshead so that the shear blades can be easily set.

**WARNING:** To prevent critical injury be aware of the crossbody and blade when the motor is turned on. Do not perform any service on this machine without first having the correct safety equipment and understanding the manual.

Cautiously move the bed towards the crosshead blade by adjusting screw, (39) & (40), making sure to continuously lower and raise the crosshead by using the recently made lever. Be aware of the of the clearance

along the whole length as the crosshead moves, verifying that the blades do not overlap or rub. Set the blades within .0015 to .002 inch. Put a sheet of heavy paper (approx. 005") between the blades. Using the lever bar lower the crosshead. If the shear cannot cut the paper, move bed blade toward upper blade as needed by altering screws (39) and (40). If there is a cut on the ends but not in the center, turn the crosshead tie rod adjusting nut clockwise until paper cuts full length of blades. If shear cuts in the center but not on the ends, turn the crosshead tie rod adjusting nut counterclockwise. When blades are correctly adjusted secure the leg to bed bolts, (37) and (38). Moving the crosshead blade to its upper position, replace the cylinders, cylinder hinge pins, and cotter pins. This mentioned set up is always needed to check blade clearance, to change blades, or to adjust any cutting settings.

**NOTE:** Adjustment of the crosshead tie rod adjusting nut should not be needed as it is precisely adjusted at our factory.

## **ELECTRICAL CONNECTIONS**

It's recommended for an experienced electrician to make the connections. Double check that wiring matches those shown on motor plate and control panel. The required voltage, frequency, and phase can be found on the control panel decal.

## **HYDRAULICS**

Mobil DTE 25 oil is provided in the tank.

**CAUTION:** Maintain tank at correct level using a clean hydraulic oil. Shears might not work correctly if there is air the hydraulics. Prior to shipment all lines are bled and all machines are tested. However, it is still possible to need to bleed air from the lines.

The pump is connected to the motor through a motor mount and a flexible coupling. A relief valve set at the correct pressure to shear a max 16 ga. mild steel sheet is found in the hydraulic circuit. If the pressure raises, the hydraulic oil is sent back to the tank and the crosshead will stop and return to the top of the stroke when the foot switch is released. The hydraulic pressure for the shear is set at around 1100 PSI. If there needs to be adjustments made to the pressure make sure that it's done by qualified personnel using a pressure gauge. Before starting the adjustments, double check that shear is in proper operating conditions and is safe to work on. If pressure is set above the recommended working pressure, serious damage can happen. This may result in a loss of warranty. If there any addition questions please contact TAAG Industries Corp.

**CAUTION:** Shut off power before oiling blades. Avoid oil or grease on bed or hold down contact points for better holding of sheet during cut.

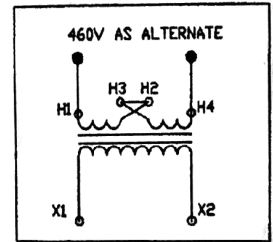
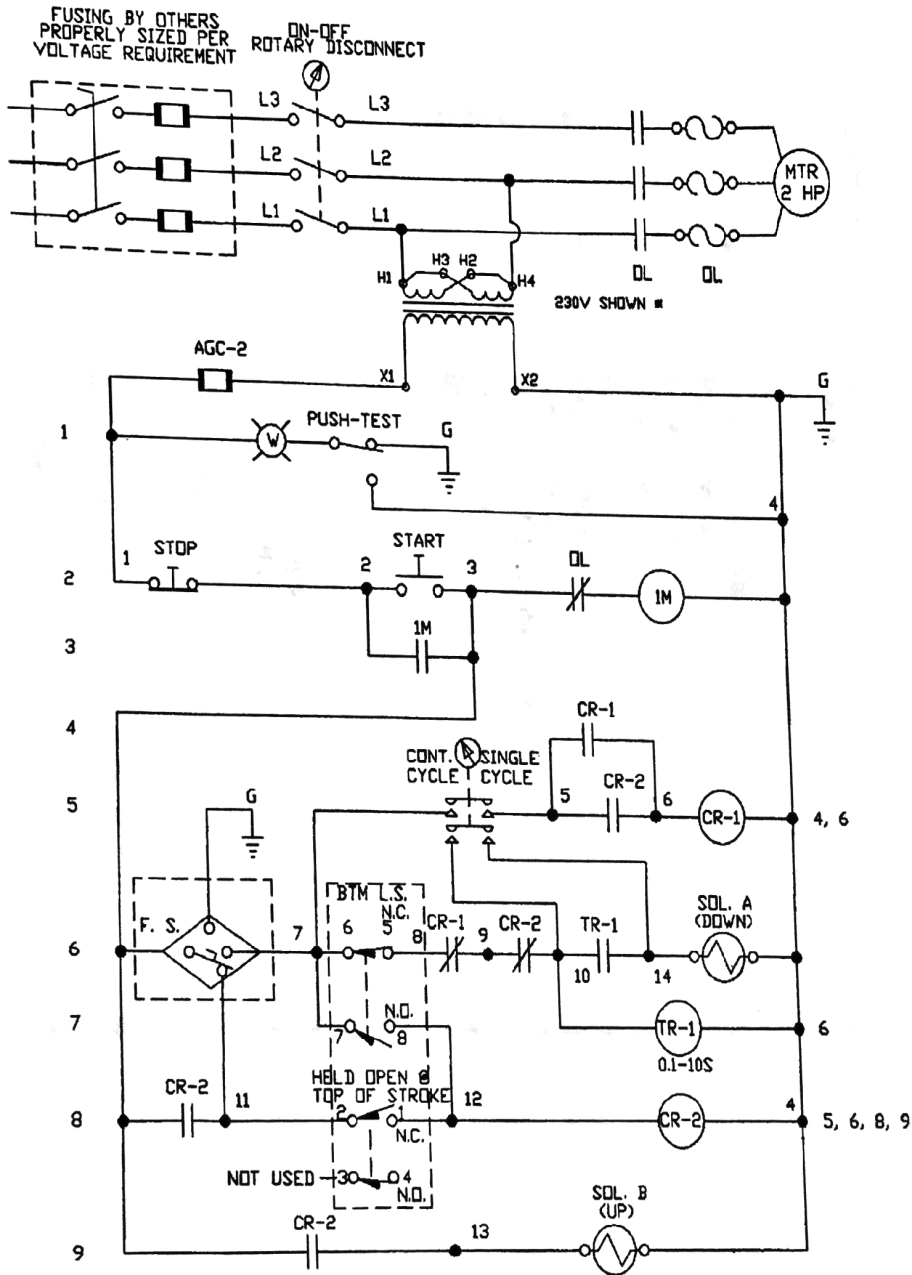
## **PREVENTIVE MAINTENANCE**

Periodic lubrication is required where indicated (X) on drawing. The hydraulic oil level must be maintained-add Mobil DTE 25 hydraulic oil, or equivalent, when required and make complete oil change approximately every 2000 hours.

**NOTE:** When tank is drained and refilled, the oil filter, breather filler and tank should be cleaned.

Hold down adjustment should be maintained so the hold down clamps the material before the blades start to cut.

# TK H1652 Electrical Schematic

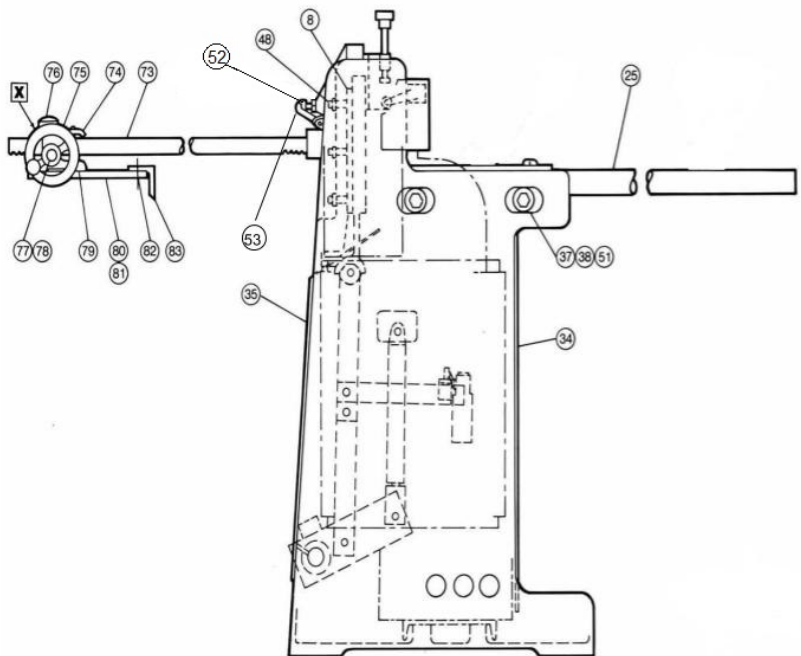
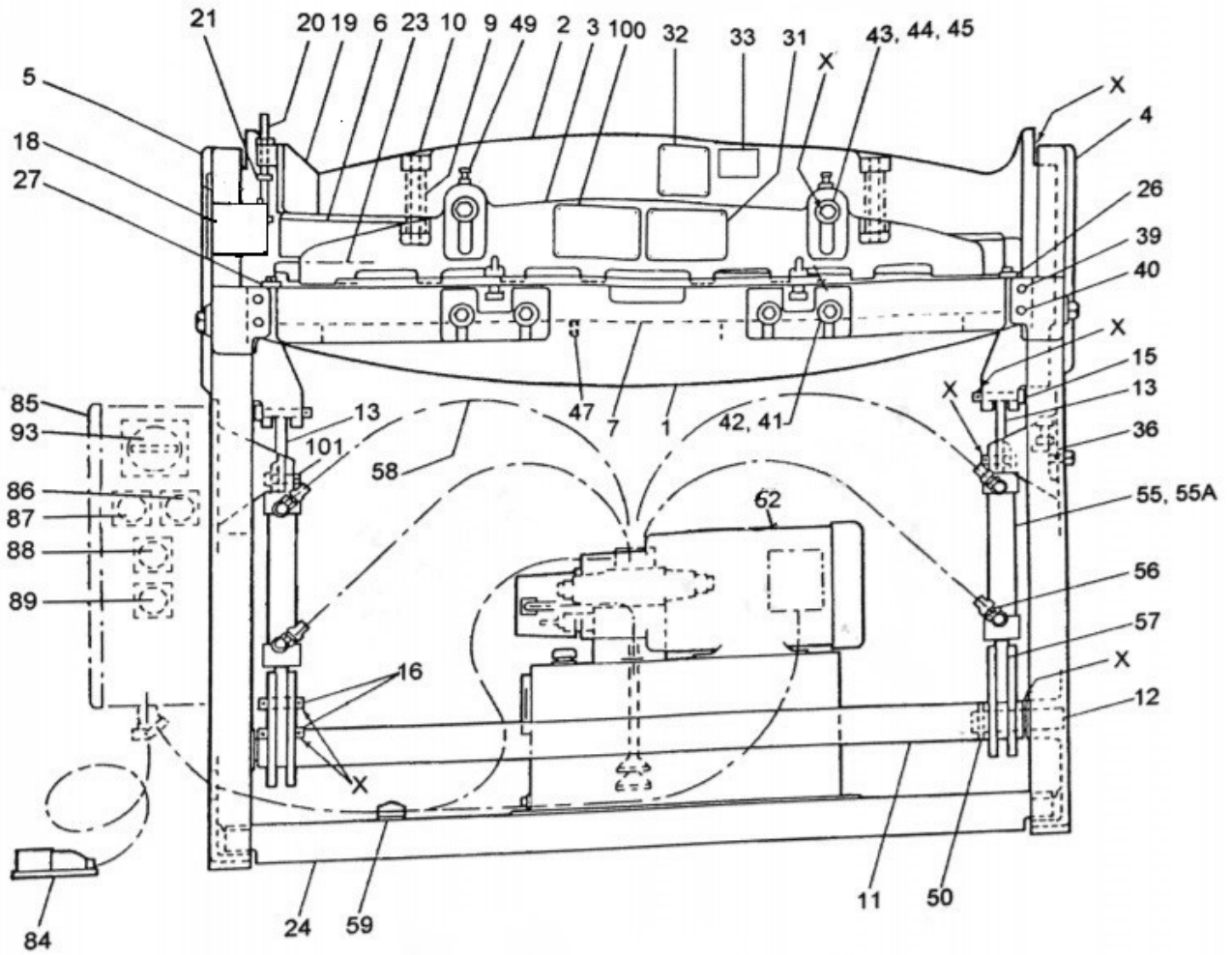


460V AS ALTERNATE

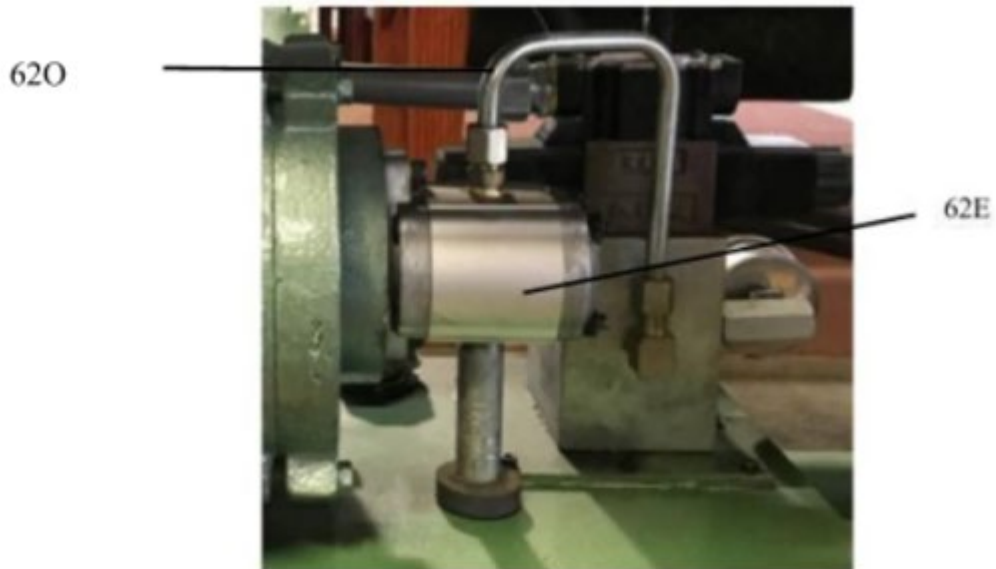
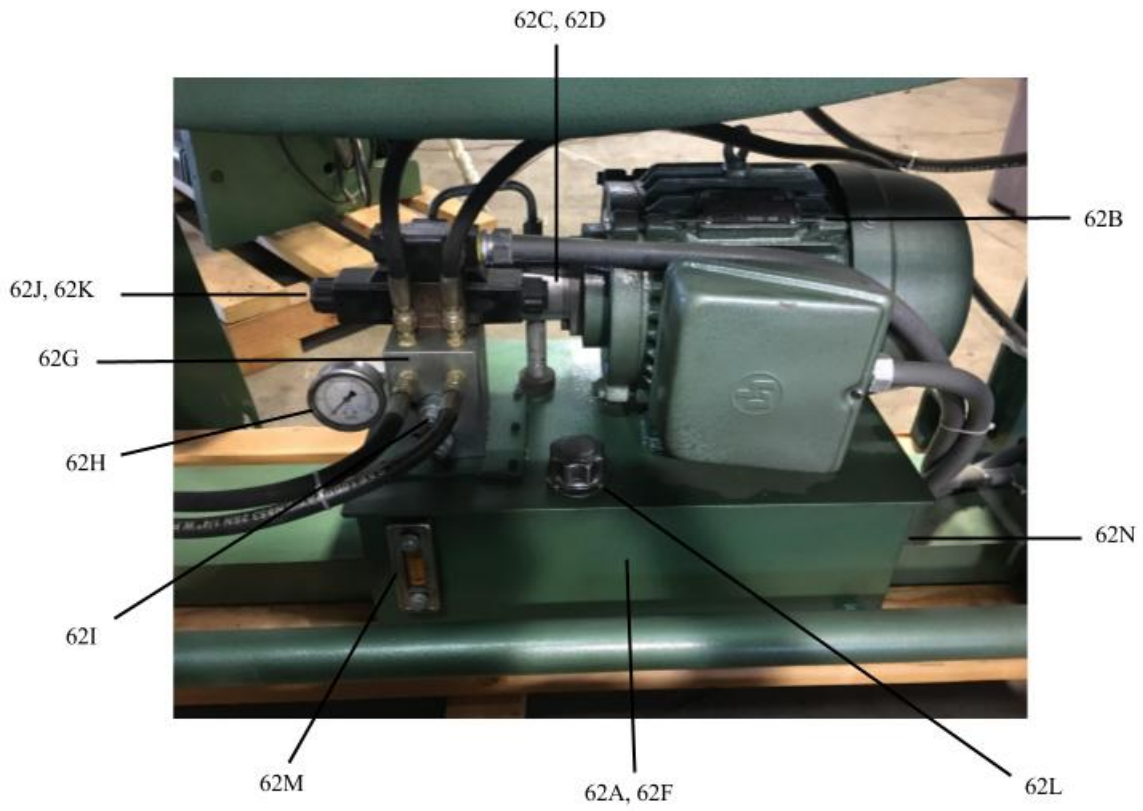
■ FOR OTHER VOLTAGES  
SEE TRANSFORMER  
FOR WIRING INSTRUCTIONS

----- REMOTE MOUNTED EQUIP.

# TK H1652 PARTS IDENTIFICATION



# TK H1652 POWER UNIT COMPONENTS IDENTIFICATION





## PARTS FOR H1652 HYDRAULIC SHEAR

<b>Fine No.</b>	<b>Part No.</b>	<b>Description</b>	<b>No. Required</b>
1	SHEAR001	BED	1
2	SHEAR002	CROSSHEAD	1
3	SHEAR003	HOLD DOWN	1
4	SHEAR004	R.H. LEG	1
5	SHEAR005	L.H. LEG	1
6	SHEAR006	UPPER BLADE	1
7	SHEAR007	LOWER BLADER	1
8	SHEAR008	GIB	2
9	SHEAR009	HOLD DOWN SPRING	2
10	SHEAR010	HOLD DOWN STUD	2
11	HSHEAR011	LEVER ASSEMBLY	1
12	HSHEAR012	HINGE PIN	2
13	HSHEAR013	R.H. & L.H. LINK	2
15	HSHEAR015	CROSSHEAD PIN	2
16	HSHEAR016	PIN, TREADLE	4
18	HSHEAR018	LIMIT SWITCH	1
19	HSHEAR019	MOUNTING PLATE	1
20	HSHEAR020	OPERATING LEVER	1
21	HSHEAR021	OPERATING LEVER NUT	1
23	SHEAR049	FINGER GUARD	1
24	HSHEAR024	BOTTOM LEG	1
25	SHEAR033	FRONT ARM	2
26	SHEAR022	R.H. SIDE GAUGE	1
27	SHEAR021	L.H. SIDE GAUGE	1
29	HSHEAR029	FRONT GAUGE	1
31	HSHEAR031	WARNING PLATE	1
32	HSHEAR032	NAMEPLATE	1
33	HSHEAR033	REGRIND PLATE	1
34	HSHEAR034	FRONT PANEL	1
35	HSHEAR035	REAR PANEL	1
36	HSHEAR036	ADJUSTABLE STOP BRACKET	1
37	SHEAR019	BED TO LEG BOLT	4
38	SHEAR020	SPECIAL WASHER	4
39	HSHEAR039	"BED IN" ADJUSTING SCREW	2
40	HSHEAR040	"BED OUT" ADJUSTING SCREW	2
41	HSHEAR041	FRONT ARM BOLT WASHERS	13
42	HSHEAR042	FRONT ARM BOLT	4
43	HSHEAR043	HOLDDOWN BOLT	2

44	HSHEAR044	HOLDDOWN BOLT WASHER	9
45	HSHEAR045	HOLDDOWN LOCK SCREW	2
47	HSHEAR047	LOWER BLADE ADJUSTING SCREW	9
48	SHEAR048	GIB & HOLDOWN ADJ SCREW	3
49	HSHEAR049	HOLDDOWN ADJUSTING SCREW	2
50	HSHEAR050	ROLL PIN	2
51	HSHEAR051	BED TO LEG NUT, 5/8-11 SQ. HD.	4
52	SHEAR052	ADJ. SCREW	1
53	SHEAR053	TIE ROD	1
55	HSHEAR055	CYLINDER	2
55A	HSHEAR055A	CYLINDER SEAL REPLACEMENT SET	1
56	HSHEAR056	HOSE FITTING	6
57	HSHEAR057	CYLINDER TANG	2
58	HSHEAR058	HOSE FITTING	4
59	HSHEAR059	CLAMP	2
61	HSHEAR061	MOBIL DTE 25	5
62	HSHEAR062	POWER UNIT, 2 H.P.	1
62A	HSHEAR062A	RESERVOIR	1
62B	HSHEAR062B	ELECTRIC MOTR	1
62C	HSHEAR062C	PUMP/MOTOR ADAPTER	1
62D	HSHEAR062D	PUMP/MOTOR COUPLING	1
62E	HSHEAR062E	PUMP	1
62F	HSHEAR062F	SUCTION SCREEN	1
62G	HSHEAR062G	CUSTOM MANIFOLD	1
62H	HSHEAR062H	GAUGE	1
62I	HSHEAR062I	RELIEF VALVE	1
62J	HSHEAR062J	DIRECTIONAL VALVE	1
62K	HSHEAR062K	MOUNTING BOLTS 10-24 X 2"SHC	4
62L	HSHEAR062L	FILLER/BREATHER	1
62M	HSHEAR062M	SIGHT/TEMP GAUGE	1
62N	HSHEAR062N	DOOR ASSEMBLY	1
62O	HSHEAR62O	MANIFOLD TO PUMP CONNECTOR	1
73	SHEAR023	BACK GA. ARM	2
74	HSHEAR074	POINTER	2
75	HSHEAR075	BALCRANK HANDWHEEL	2
76	HSHEAR076	HAND KNOB	2
77	HSHEAR077	CONNECTING SHAFT	1
78	HSHEAR078	PINION RH & LH	2
79	SHEAR025	BACK GAUGE HOLDER	2
80	SHEAR026	R.H. LINK	1
81	SHEAR027	L.H. LINK	1
82	SHEAR028	PIVOT STUD	3

83	SHEAR024	BACK GAUGE BAR	1
84	HSHEAR084	FOOTSWITCH W/ GUARD	1
85	HSHEAR085	ENCLOSURE W PANEL	1
86	HSHEAR086	STOP PUSH BUTTON	1
87	HSHEAR087	START PUSH BUTTON	1
88	HSHEAR088	SELECTOR SWITCH	1
89	HSHEAR089	PUST TO TEST GROUND DETECTOR	1
90	HSHEAR090	MAGNETI STARTER	1
91	HSHEAR091	OVERLOAD	1
92	HSHEAR092	TRANSFORMER	1
93	HSHEAR093	ROTARY DISCONNECT SWITCH	1
95	HSHEAR095	FUSE	1
96	HSHEAR096	RELAY, 2PDT	1
97	HSHEAR097	RELAY 4PDT	1
98	HSHEAR098	TERMINAL BLOCK	16
99	HSHEAR099	FUSE BLOCK	1
100	HSHEAR100	WARNING PLATE	1
101	HSHEAR101	PIN, RING-PULL QUICK RELEASE	2
	HSHEAR102	Complete Back Gauge Assembly	1
	APS115	squaring arm assembly	1
	APS117	Squaring arm drop stops	3