RH MACH 70
PLATINUM EDITION

ROLLING HEAD PINSPOTTER
ITEM# 27182

MACHINERY DIVISION

OWNER'S MANUAL

DURO DYNE®
MACHINERY DIVISION

INTRODUCTION

The Rolling Head Mach 70 was designed utilizing the best current technology to provide greater insulation fastening power and reliability.

The inherent minimal material handling combined with the utilization of welded fasteners will insure your shop of a cost efficient, quality product.

Trouble free service is the foundation on which all Duro Dyne Pinspotters are built. Proven solid state components located for easy access. Duro Dyne continues this concept and brings the RH Mach 70 Rolling Head to a new and higher level of reliability, serviceability and efficiency.

This Guide is designed to help you set up and operate your Rolling Head Mach 70 at peak performance for years to come.

IMPORTANT

Always follow manufacturer's recommendations for proper safety and handling procedures for all materials used in conjunction with this machine as outlined in Manufacturer's Safety Data Sheet (MSDS) for each product.

LIMITED WARRANTY

Duro Dyne Machinery is manufactured by skilled mechanics, utilizing the latest production techniques. Each unit has been rigorously tested prior to packaging and shipment in order to ensure trouble-free operation.

Your Duro Dyne machine has a two year warranty against defects in material. Any component found to be defective will be repaired or replaced (at the manufacturer's discretion) at no cost if the faulty component is returned freight prepaid to the nearest Duro Dyne Service Department. The warranty does not apply to expendable parts or repairs and service due to improper maintenance or operation procedures.

Duro Dyne products have been engineered to maximize operator safety. Unauthorized modification of this product will void the warranty.

All warranty claims must be accompanied by a serial number, date of purchase and the name and address of the distributor it was purchased from.

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PARTS LOCATION

17391 Actuator Swival Bolt

17283 Trigger Actuator Assembly

17284 Trigger Actuator Switch

17291 Rear Bumper Stop

17278 Steel Track

44063 Lower Ground Bar

17191 Upper Weld Tip

17189 Upper Replacement Plates (5/pkg)

17192 Lower Weld Tip

18032 Lower Replacement Plates (5/pkg)

17376 Lower Mandrel

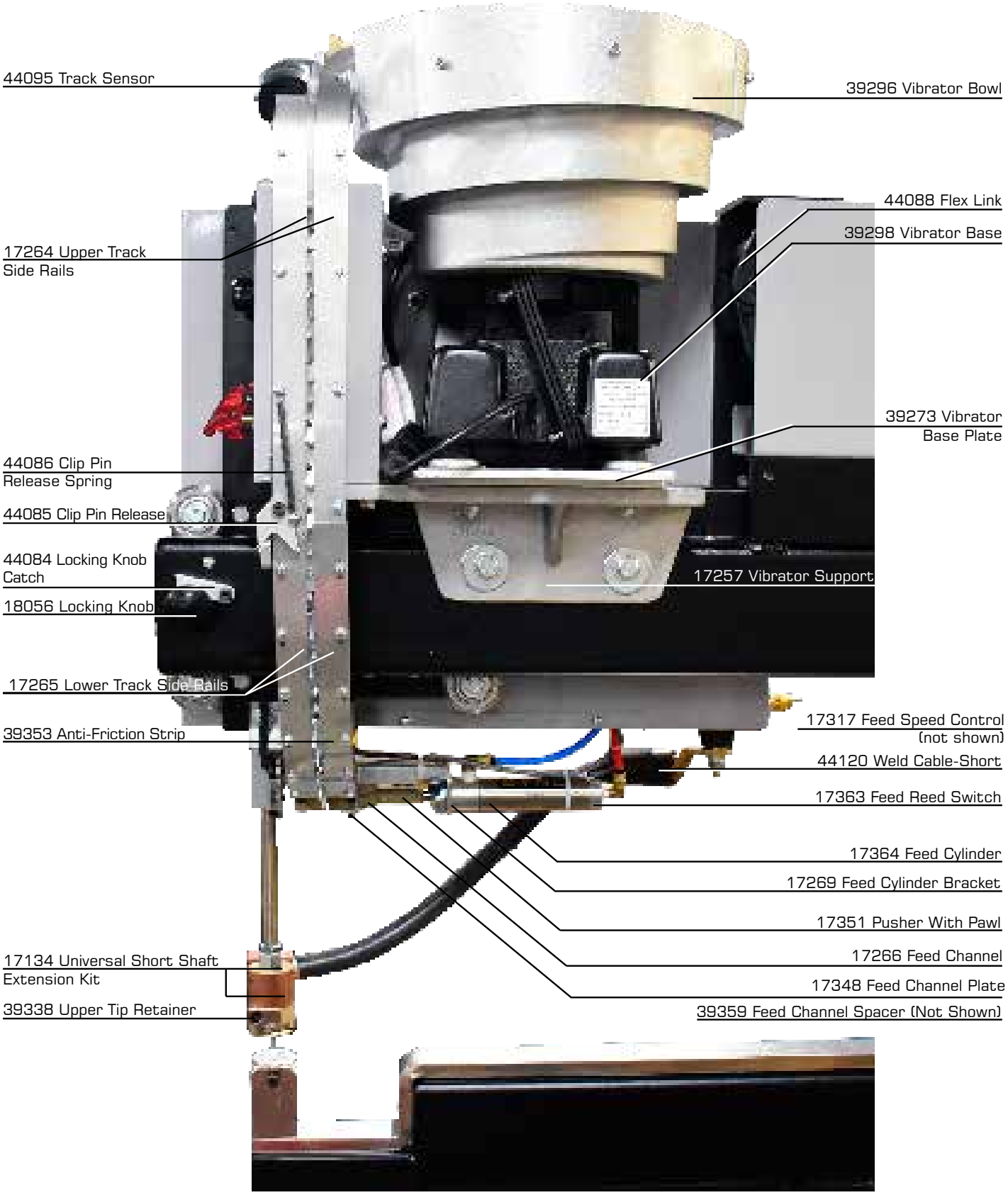
See page 11 for more details.

17372 Footswitch

17281 Hand Gun & Ground Set

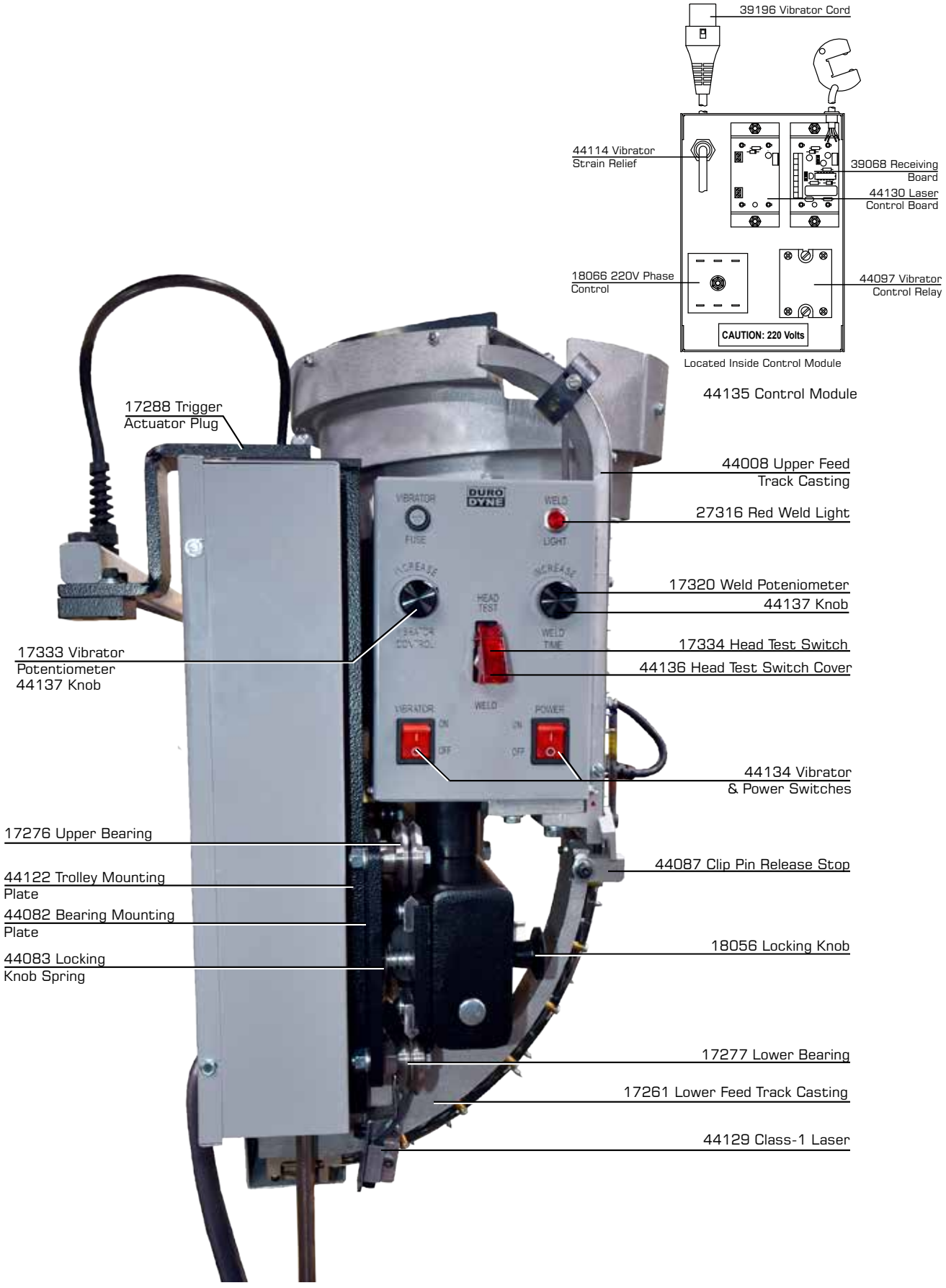
FRAME ASSEMBLY

PARTS LOCATION



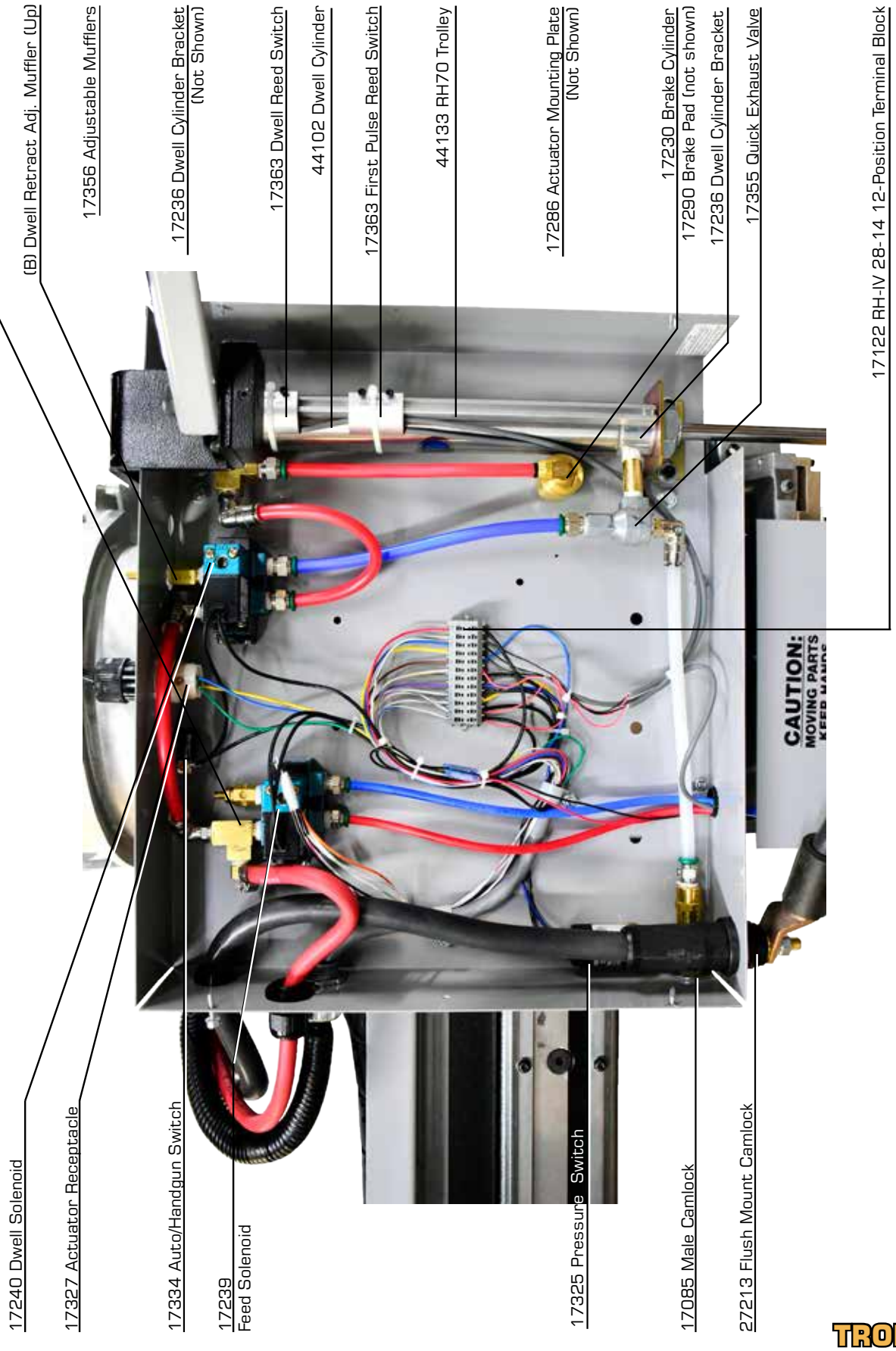
DWELL & FEED ASSEMBLY

PARTS LOCATION

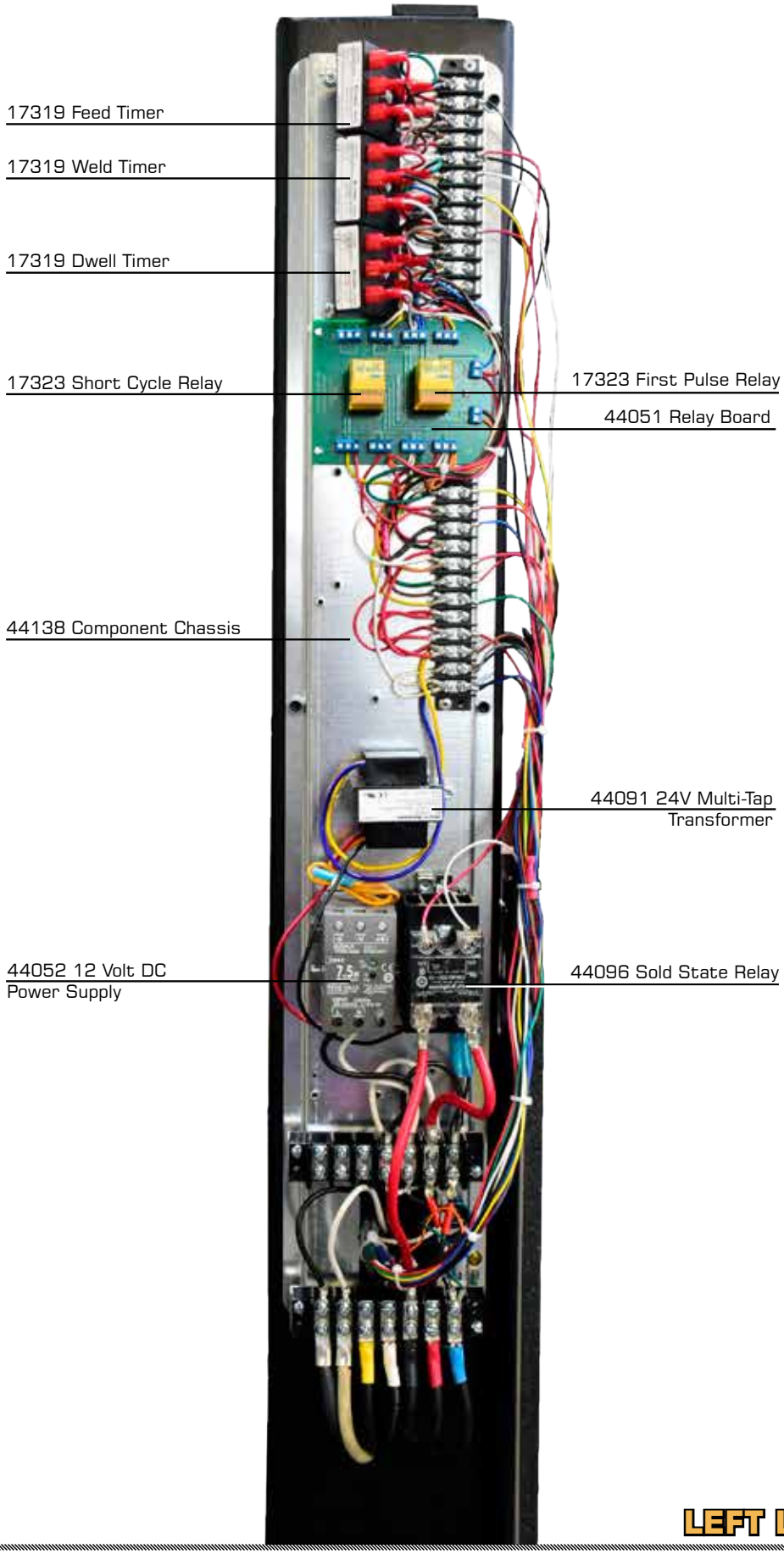


CONTROL CONSOLE AND FRONT END ASSEMBLY

PARTS LOCATION

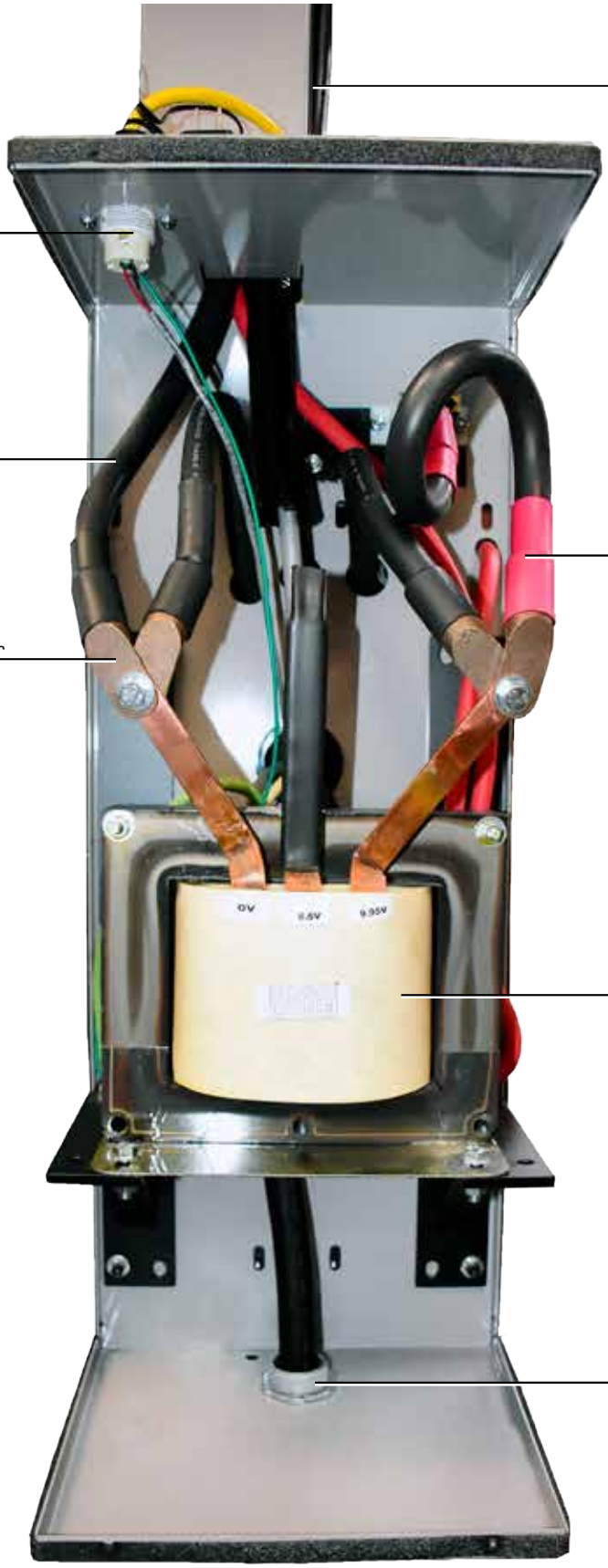


PARTS LOCATION



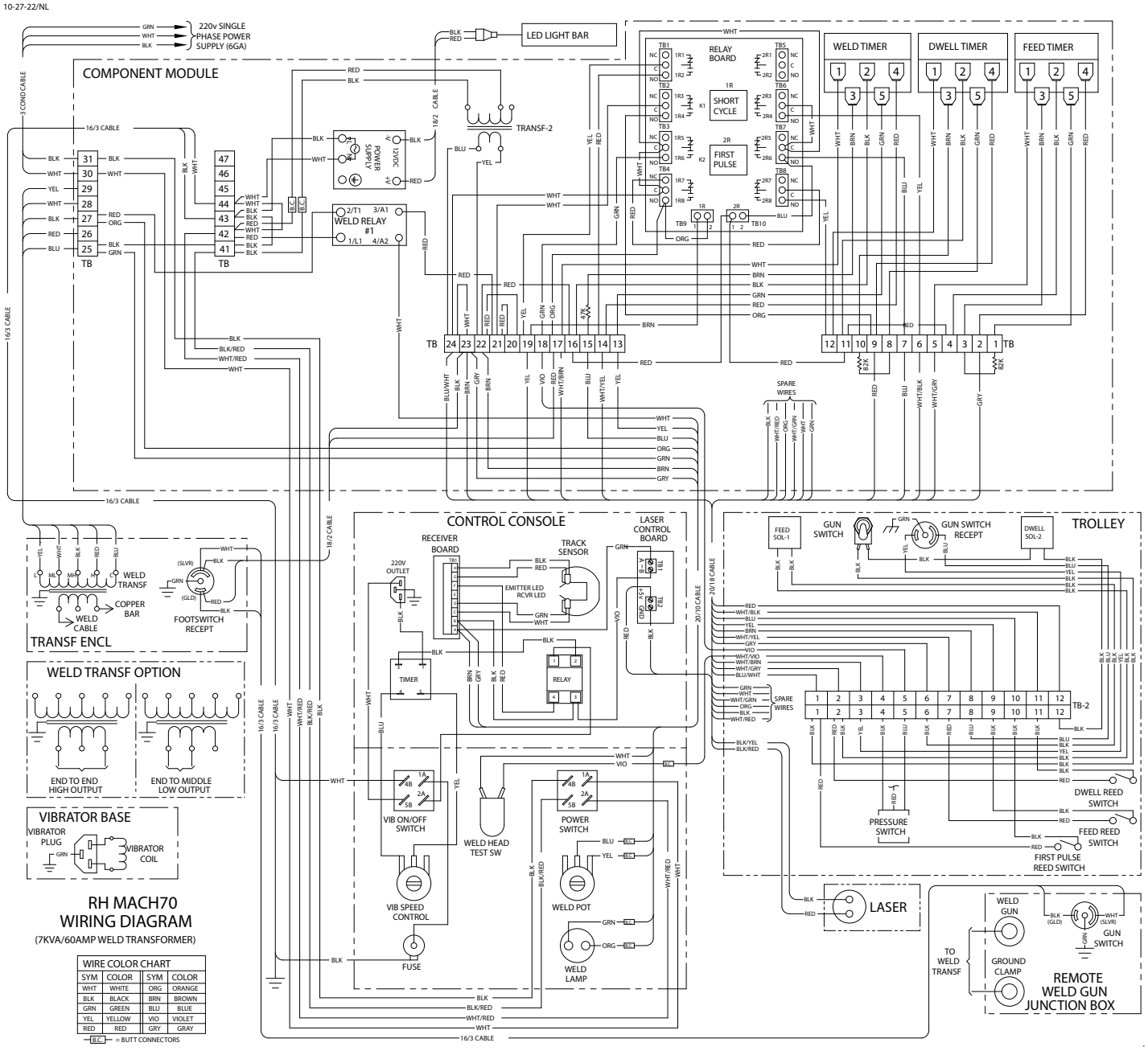
LEFT LEG CONSOLE

PARTS LOCATION



TRANSFORMER ENCLOSURE

WIRING DIAGRAM



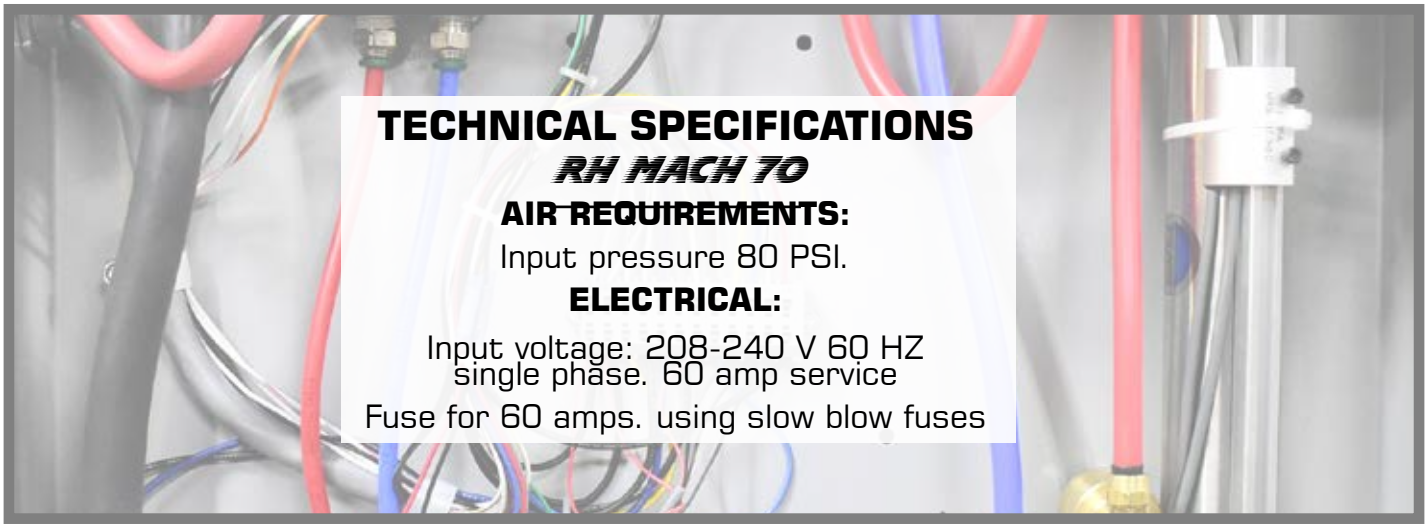
INSTALLATION INSTRUCTIONS

1) For the Mach 70-
Connect the Power Pack to a source of 208-240V 60 Amp. power. This service should be connected to a 60 amp disconnect box fitted with 60 amp slow blow fuses. The Power supply line to the power pack pigtail should be #6 (or heavier) wire to minimize voltage losses. The black and white wires are the power, the green is ground. Select 208V or 240V at the voltage switch in the console on left leg to the closest match to the power supply voltage.

2) Attach the Actuator Arm to the socket on the top of the Trolley.

3) Connect the air line to the Regulator. Adjust the regulator pressure to 80-85 PSI.

4) Plug the Vibrator Power Plug into the socket on the rear of the Control Panel.



OPERATION

Mach 70 INITIAL ADJUSTMENTS

1) Turn the power switch to "ON".

2) Turn the vibrator switch to "ON".

3) Add the weld pins to the hopper (Vibrator Bowl).

4) Adjust the vibrator speed so that the weld pins climb the spiral track inside the vibrator bowl without vibrating off.

5) When the weld pins fill the track up to the Vibrator Sensor, the vibrator automatically shuts off.

6) Flip the HEAD TEST Switch to either the "WELD #1" or "WELD #2" position.

NOTE: The Rolling Head Mach 70 Pinspotter has two redundant weld circuits. In the event that the solid state relay controlling the weld fails you may simply flip the switch to the other circuit and continue production. A replacement Weld Relay should then be ordered through your local Duro Dyne wholesaler.

STARTING OPERATION

1) Never actuate the unit without metal over the mandrel or lower copper ground bar. For maximum weld quality, the metal should be in flat contact with the ground bar and mandrel. An adjacent table or roller on which the sheet metal rests must be either exactly flush with, or slightly below, the top of the ground bar and mandrel.

2) The WELD TIME knob controls the weld quality of the pinspotter. It is recommended that an initial setting right in the middle be used and then adjust up or down accordingly in reference to the quality of welds.

STARTING OPERATION (continued)

Weld time is the length of time the welding transformers are on. A fraction of a second is generally all the time needed for a quality weld. Unnecessary weld time not only wastes energy but can also burn up the pins. (If the pins glow red up to the washer, the weld time is set too high.) Always set the weld timer to the minimum time required for a good weld.

3) Before beginning production, always "pre-test" with smaller pieces of the same gauge sheet metal thickness and the liner density you intend to use in the final production. The different densities and thicknesses of the liner may require adjustments of the weld timer setting. For example: heavier gauge steel, thicker liner, higher density liner and/or longer weld pins may require longer weld time. To make sure, always pre-test any adjustment before you begin "final production." However, only change the weld timer settings when a change in the materials results in inefficient welding or a poor quality weld.

MAINTENANCE

1) To prolong the weld tip life and improve the weld quality, it is imperative that the weld tips and lower ground bar always be kept clean. For best results, use a solvent to remove any built-up adhesive; a wire brush to remove any galvanizing deposits; and a fine emory cloth to smooth the tip and ground bar surfaces.

2) When lower weld tip becomes worn in one area, loosen the locking cap screw and rotate the point of wear away from the point of contact. Additional lower weld plates can be ordered from your local distributor.

3) Depending on usage and maintenance, the upper welding tip plate will have to be periodically replaced. Replacement weld tip plates can be ordered from your local distributor. To replace the upper weld tip, loosen the locking cap screw and remove the weld tip. Remove the plate by loosening three (3) brass screws. Throw away the screws and attach the new plate to the tip using the three brass screws supplied. Be sure to align the angled section of the plate so it faces the feed mechanism. Then lock the tip in place. Cycle the machine to check the feeding.

4) If feeding is erratic, re-adjust the upper weld tip height by loosening the lock nut on bottom of the dwell cylinder shaft and then turning the dweld cylinder shaft clockwise to raise the tip; counter-clockwise to lower the tip. Lock the tip in place with the locking nut.

EXTERNAL HAND-HELD WELD GUN & GROUND CABLE

The RH Mach 70 Pinspotter is provided with a Junction Box to accommodate an External Hand-Held Weld Gun & Ground Cable (sold separately).

SERVICING

A SIMPLIFIED STEP-BY-STEP PROCEDURE

Duro Dyne has called upon its many years of pinspotting experience in designing the Mach 70 Rolling Head. Your unit has been rigorously factory tested and inspected to provide many years of dependable service.

WHAT TO DO BEFORE YOU BEGIN TROUBLESHOOTING:

CONSULT THE MANUAL.

Most of the functional problems that occur are due to an oversight in the set-up, operational or normal maintenance procedures. Therefore, you should re-check all "Set Up", "Initial Adjustment", "Operation" and "Maintenance" procedures.

INSPECT THE UNIT

If the problem still persists, the next step is careful visual inspection. Turn off the electricity - that is, disconnect your Pinspotter from its power supply and carefully check the control box for loose, broken or disconnected wires. Also check the air circuit for leaky air connections or cut hoses.

HOW TO IDENTIFY WELD QUALITY PROBLEMS

By weld we mean that the Weld Transformer is energized, sending a pulse of electricity through the weld pin, causing it to begin to fuse to the sheet metal.
To properly troubleshoot the weld quality problems, you must first pinpoint the symptom by test welding the pins to bare sheet metal. The symptom will then show up in one of four categories:

1) The pins weld to bare metal but not on lined work.
2) The pins weld to bare metal but can easily be removed.
3) Pins weld to bare metal but remain on the weld tip as it retracts.
4) The pins do not weld at all.

Before troubleshooting, always check:

1) Air pressure for a minimum of 80 PSI during usage of unit.
2) The input Voltage for a minimum of 208V.
3) The Weld Timer is set properly.
4) The Upper and the Lower Weld tips for extreme wear.

It may become necessary to use a voltmeter and/or ohmmeter to perform some servicing procedures. An analog type is best. Our Technical Services Dept will help you if necessary.

TROUBLESHOOTING

For assistance please call Duro Dyne Technical Services Dept at 1-800-899-3876 between the hours of 7am - 6pm EST.

NOTES:

1. The Feed Reed Switch is a safety that will not allow the machine to operate if the feed cylinder is not fully retracted. The Feed Reed Switch is located on the Feed Cylinder. To check that the Feed Reed Switch is positioned properly, loosen the set screws and put an Ohm meter on terminals 7 and 9 in the trolley. Slide the Feed Reed Switch back and forth until continuity is indicated, then tighten the set screws.

2. Check that the Air Regulator is set for 80 psi. Mounted on the top of the Trolley are two Adjustable Exhaust Mufflers. The front one adjust the speed of the Dwell Cylinder moving down and the rear one adjust the speed up. These mufflers can become restricted or loose. If machine is sluggish or starts slamming down, adjust these mufflers accordingly.

3. The First Pulse Reed Switch is located in the middle of the Dwell cylinder.

4. To check that the Dwell Reed Switch is positioned properly, loosen the set screws and put an Ohm meter on terminals 6 and 11. Slide the Dwell Reed Switch up and down until continuity is indicated, then tighten the set screws.

5. Mounted on the Feed Cylinder is a Feed Speed Control. The Feed Speed Control adjusts how fast the Pusher with Pawl moves in and out. If adjusted too fast the pins may be tossed past the tip, if adjusted too slow the pins will not be placed on the tip.

PARTS LIST

09145	Line Cord w/ Strain Relief
17084	Air hose 3/8" natural
17085	Male camlock
17122	RH-IV 28-14 12-Position Terminal Block
17134	Universal Short Shaft Extension Kit
17189	Upper weld tip plates (5/pkg)
17191	Upper weld tip
17192	Lower weld tip
17198	Track casting spacers and screws
17203	Fiber insulator
17230	Brake cylinder
17236	Dwell Cylinder Bracket
17239	Feed solenoid
17240	Dwell solenoid
17257	Vibrator support casting
17261	Lower track casting
17264	Upper track side rails
17265	Lower track side rails
17266	Feed channel
17269	Feed cylinder bracket
17276	Upper bearing
17277	Lower bearing
17278	Steel track
17281	Hand gun & ground set
17283	Trigger actuator assembly
17284	Trigger actuator switch
17286	Actuator mounting plate
17288	Footswitch plug
17288	Trigger actuator plug
17290	Brake pad
17291	Rear bumper stop
17291	Front bumper stop
17317	Feed speed control
17319	Weld timer
17319	Dwell timer
17319	Feed timer
17323	Short cycle relay/First Pulse relay
17325	Pressure switch
17327	Actuator receptacle
17327	Footswitch receptacle
17327	Switchcover receptacle
17334	Auto/hand gun switch
17334	Head Test switch
17348	Feed channel plate
17351	Pusher and pawl
17352	Upper tip retainer
17355	Quick exhaust valve
17356	Adjustable muffler
17363	Feed reed switch
17363	Dwell reed switch
17363	First pulse reed switch
17364	Feed cylinder
17372	Footswitch
17376	Lower Mandrel
17377	Air regulator
17391	Actuator swival bolt
17394	Short shaft extention
17395	Lower ground bar
18032	Lower Replacement Plate (5/pkg)
18056	Locking knob
18066	220V Phase Control
27213	Flush mount camlock
27343	Socket cover
39068	Receiving Board
39110	Pin feed switch
39273	Vibrator Base Plate
39296	Vibrator Bowl
39298	Vibrator Base
39353	Anti-friction strip
39359	Feed Channel Spacer
39691	C Clip
40102	Air hose 3/8" blue
40105	Air hose 1/4" yellow
40106	Air hose 1/4" blue
44008	Upper feed track casting
44031	Vibrator potentiometer
44051	Relay Board
44052	12 VDC power supply
44062	Trolley mounting plate
44063	Lower Ground Bar
44064	Weld cable retainer block
44067	Flexible wire mold
44068	Rubber air hose
44070	Weld cable camloc
44082	Bearing mounting plate
44083	Locking knob spring
44084	Locking knob catch
44085	Clip pin release
44086	Clip pin release spring
44087	Clip pin release stop
44088	Flex link
44089	Weld cable - long
44091	24 volt multi-tap transformer
44095	Track Sensor
44096	Weld Relay
44101	Weld Transformer
44122	Trolley Mount Plate
44129	Class-1 Laser
44130	Laser/Control PC Board
44131	Laser/Control PC Board Kit
44133	RH70 Trolley
44134	Main Power/Vibrator Switch
44135	Mach70 Control Module
44136	Head Test Switch Cover
44137	Potentiometer Knob
44138	Component Chassis
44139	Weld Cable - Short

NOTES

NOTES

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Please Visit Our Website

www.durodyne.com

for the most up to date product information.

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