
DUAL SIDE GRINDER

W-1904-P



OPERATORS MANUAL

MADE IN THE U.S.A.

W-1904-P QUAD DUAL SIDE GRINDER

Contents

LIMITED WARRANTY	2
GENERAL SAFETY RULES.....	3
SPECIFICATIONS.....	4
OPTIONS	5
COMMON REPLACEMENT PARTS	5
PRE SET UP	6
MAINTENANCE.....	7
MACHINE CONTROLS.....	8
LOADING SAW	12
TOOTH GEOMETRY.....	14
CONVERSION CHART	16
ELECTRICAL SCHEMATIC.....	21
AIR SCHEMATC.....	23
PARTS LIST	25
INDEX.....	67



W-1904-P QUAD DUAL SIDE GRINDER

LIMITED WARRANTY

This machine is warranted against defects in workmanship and materials under normal use and proper maintenance, for one year after date of purchase from WRIGHT MACHINE TOOL CO. Any part which is determined to be defective in material or workmanship and returned to WRIGHT MACHINE TOOL CO., shipping costs prepaid will be repaired or replaced, at WRIGHT MACHINE TOOL CO. option.

WRIGHT MACHINE TOOL CO., INC.
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PHONE (541) 942-3712
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W-1904-P QUAD DUAL SIDE GRINDER

GENERAL SAFETY RULES

Failure to follow the safety rules and other basic safety precautions, may result in serious injury.

Always use eye protection: When operating this machine, eye protection should be worn. Grinding particles and the possibility of wheel breakage make eye protection necessary. Also face or dust mask if operation is dusty. Use adequate ventilation.

Use ear protection: If operation is creating excessive noise.

Disconnect power: To machine when NOT in use.

Keep Clear: Of grinding wheels and pinch points when machine is running.

Don't over reach: Keep proper footing and balance at all times.

Saws are sharp: Wear appropriate personal protective equipment when handling saw blades.

Mounting of wheels: Should only be done by persons with mechanical aptitude and good knowledge of mounting, care, and inspection of grinding wheels. Wheels must be rated for the RPM of the machine.

Dress properly: Do not wear loose clothing or jewelry. Nonskid foot wear is recommended. Wear protective hair covering to contain long hair.

Avoid dangerous environments: Don't use in wet location. Keep work area well lit. Do not use this machine in the presence of flammable liquid or gasses.

Keep children away: Do not let VISITORS contact this machine.

Keep work area clean: Cluttered areas invite accidents.

All electrical covers: Must be in place before applying electrical power to this machine. Electrical service must be locked out prior to removing any electrical covers on machine guards. Access to electrical components must be restricted to trained personnel only to avoid possible electrical shock.

Voltage greater: Than specified on name plate can result in serious injury to user.

Never stand on this machine: Serious injury could occur if the machine tipped or if the grinding wheel is accidentally contacted.

Follow safety precautions: For the wheels, coolant and material being ground. This information is available on the Safety Data sheet for each of these products.



W-1904-P QUAD DUAL SIDE GRINDER

SPECIFICATIONS

The W-1904-P "QUAD" is designed to Side Grind Band Saws. A Roughing Station sizes the tooth to approximate dimension using two 5" 11V9 Cup Wheels, at the same time the Finish Station grinds the second tooth to the exact dimension using two 5" C. B. N. Grinding Wheels.

STANDARD VOLTAGE:	440 Volt, 3 Phase, 50/60 HZ
OPTIONAL VOLTAGE:	As Requested
SHIPPING WEIGHT:	2,300 lbs
CRATE SIZE:	L 83" X W 48" X H 60"
AIR REQUIREMENTS:	2 CFM at 80 psi
STANDARD SAW SIZE:	6" to 16"
OPTIONAL SAW SIZE:	Down to 2"
SPINDLE MOTORS:	(4) 1hp 3450 RPM Motors TEFC



W-1904-P QUAD DUAL SIDE GRINDER

OPTIONS

Totalizer Counter	W-70
Double Cuts Saw Carrier for Machine:	W-1550
Short Band Saw Support Assembly:	W-2083
Narrow Band Saw Carrier 2" to 6":	W-2190
Sliver Tooth Saw Carrier (4 Required):	W-2231-1
Stands:	W-2259 Back Feed W-2260 Back Stands W-2262 Guide Stands
Double Cuts Saw Carrier for Back Stands:	W-2265
S G Grinding Wheel (Rough Head)	V-45 (2 Req.)
Borazon Grinding Wheel (Finish Head)	B-45 (2 Req.)

COMMON REPLACEMENT PARTS

Coolant Nozzle	W-1294
Feed Finger Assy	W-2186-1



W-1904-P QUAD DUAL SIDE GRINDER

PRE SET UP COOLANT

Coolant capacity is 7 to 10 gallons. A rust inhibiting grinding coolant **MUST** be used or severe rust damage to machine can result. Mix coolant according to manufacturer's instructions. Coolant pump plugs into female receptacle on back door of the machine.

RUST DAMAGE IS NOT COVERED BY THE WARRANTY

MOUNTING GRINDING WHEELS

All grinding wheels must be rated for the RPM of this machine. Wheels exposed to higher than rated RPM are dangerous.

Mounting of the grinding wheel should only be done by persons with mechanical aptitude and good knowledge of mounting, care, and inspection of grinding wheels.

STYLE OF GRINDING WHEELS

ROUGHING HEAD

V-45 Cup Wheel	5" X 1-3/4" X 1-1/4"	11V9	2 Required
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FINISH HEAD

B-45 Cup Wheel	5" X 1-3/4" X 1-1/4"	Borazon	2 Required
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GRINDING WHEELS MUST BE RATED FOR 5000 RPM OR THE RPM OF YOUR MACHINE.

NOTE: Power must be disconnected to machine when changing Grinding Wheels.

To change Grinding Wheels move head to full open position. With a 3/16 Allen wrench, loosen wheel retainer bolt located through the 1/2" hole in the belt cover. The wheel retainer bolt is standard right hand thread.



W-1904-P QUAD DUAL SIDE GRINDER

The useful life of this machine can be dramatically extended if the following rules of operation are followed.

1. Clean the machine regularly.
2. A good rust inhibiting coolant must be used in the correct ratio. Too weak a mix will cause rust problems and too thick will damage the paint and load the Diamond wheels.
3. Do not clean the machine with high pressure air or water. This can blow grit into the internal parts of the machine and cause rusting problems which is not covered by warranty.

MAINTENANCE

DAILY

1. Check coolant level and filter.
2. Clean exterior of machine.
3. Check hydraulic oil level. (periphery grinder)

WEEKLY

1. Check coolant tank for carbide buildup.
2. Replace coolant filters.

MONTHLY or 100,000 CYCLES

1. Grease index linear bearing.
2. Inspect feed finger for wear.
3. Inspect clamp jaws for wear.
4. Inspect roller hold down bearings.

EVERY 6 MONTHS or 500,000 CYCLES

1. Inspect spindle drive belt.
2. Clean spindle motor fan.
3. Remove stainless splash guards and clean completely.
4. Inspect index system linear slide bearing assembly for excessive clearance.

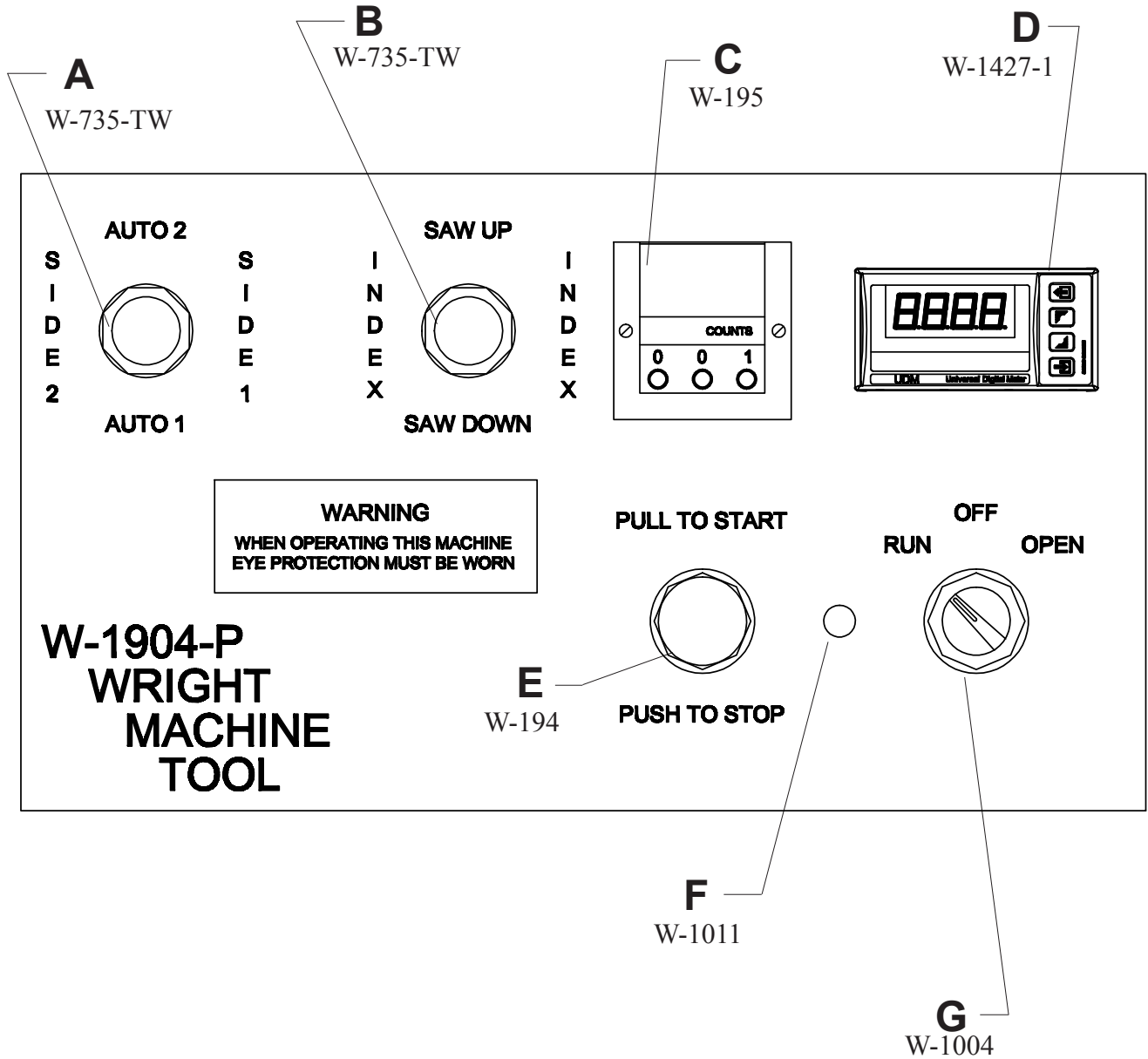
EVERY 24 MONTHS or 1,000,000 CYCLES

1. Replace spindle drive belt and inspect pulleys.
2. Inspect pulleys for wear.



W-1904-P QUAD DUAL SIDE GRINDER

CONTROL PANEL



W-1904-P QUAD DUAL SIDE GRINDER

CONTROL PANEL

- A.** Control Joy Switch has 5 positions. Left for side #2 (Manual Finish Head In only), right for side #1 (Manual Rough In only), down for Automatic #1 (Rough Grind only) up is for Automatic #2 (Rough and Finish Grind only.) Machine must be running for these controls to work.
- B.** Saw Up / Saw Down only function when saw clamp is open. Index Forward / Reverse only function when saw clamp is closed and machine is not running.
- C.** Tooth Counter only counts in the Automatic #2 position.
- D.** The Load Meter monitors the power required to grind with the periphery Heads. The Load Meter is set by accessing the **SET** and the **HYS** screens. The meter controls the set point which is a nominal amp draw with no grind load. The hysteresis is what established the amp draw during the grind, which suspends forward grind motion if the Finish Head hits a tooth that is wider than expected, this load meter will slow the speed as necessary to reduce the chance of wheel or saw damage.
- E.** Pull to start - Push to stop.
- F.** Indicator light shows power to machine.
- G.** Open position - Opens saw clamp jaws. Run position - Closes clamp jaws and allows the machine to be started. When machine is not in use turn to Off position.



W-1904-P QUAD DUAL SIDE GRINDER

LOAD METER



HOLD ENTER FOR 2 SECONDS → PASS → 0000 PRESS ENTER

↑ SCROLL → InP PRESS ENTER

rAnG

→ r3 PRESS ENTER

tYPE

→ t rn5 PRESS ENTER

intt

→ Auto PRESS ENTER

↑ SCROLL → COLr PRESS ENTER

→ GrEn PRESS ENTER

↑ SCROLL → SCAL PRESS ENTER

→ LoE → 0000 PRESS ENTER

Hi E → 5000 PRESS ENTER

dP → 1111 PRESS ENTER

Lod → 0000 PRESS ENTER

Hi d → 5000 PRESS ENTER

↑ SCROLL → Lin PRESS ENTER

→ nonE PRESS ENTER

↑ SCROLL → SP.1 PRESS ENTER

→ Lo5 → 0500 PRESS ENTER

Hi .5 → 5000 PRESS ENTER

SEt → 3200 PRESS ENTER

HYS → 3200 PRESS ENTER

aFFd → 0000 PRESS ENTER

and → 0000 PRESS ENTER

rLY → nd PRESS ENTER

ALr → oFF PRESS ENTER

colr → rEd PRESS ENTER

SP.1

↑ SCROLL → SP.2 REPEAT FOR SP.2

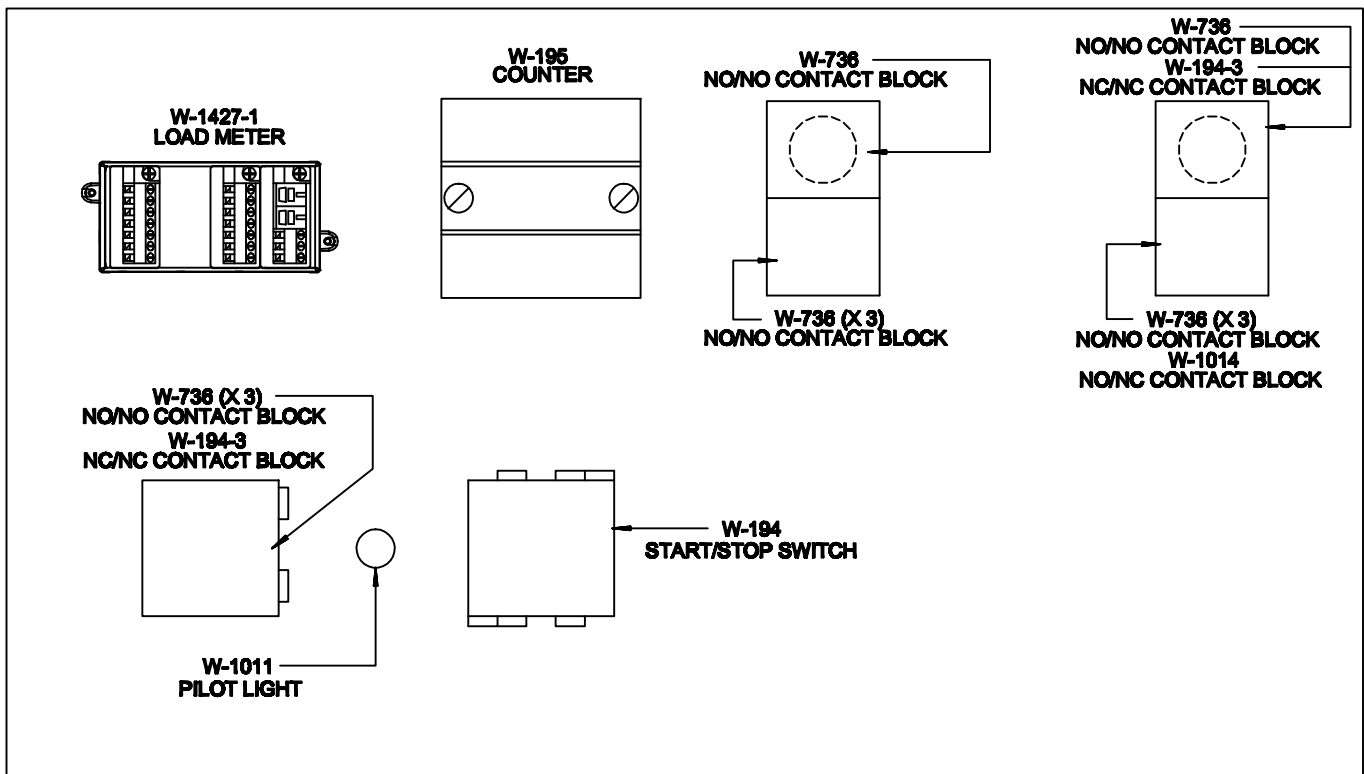
NO NEED TO ENTER PARAMETERS WHEN FINISHED

PRESS EXIT → RETURNS TO DISPLAY



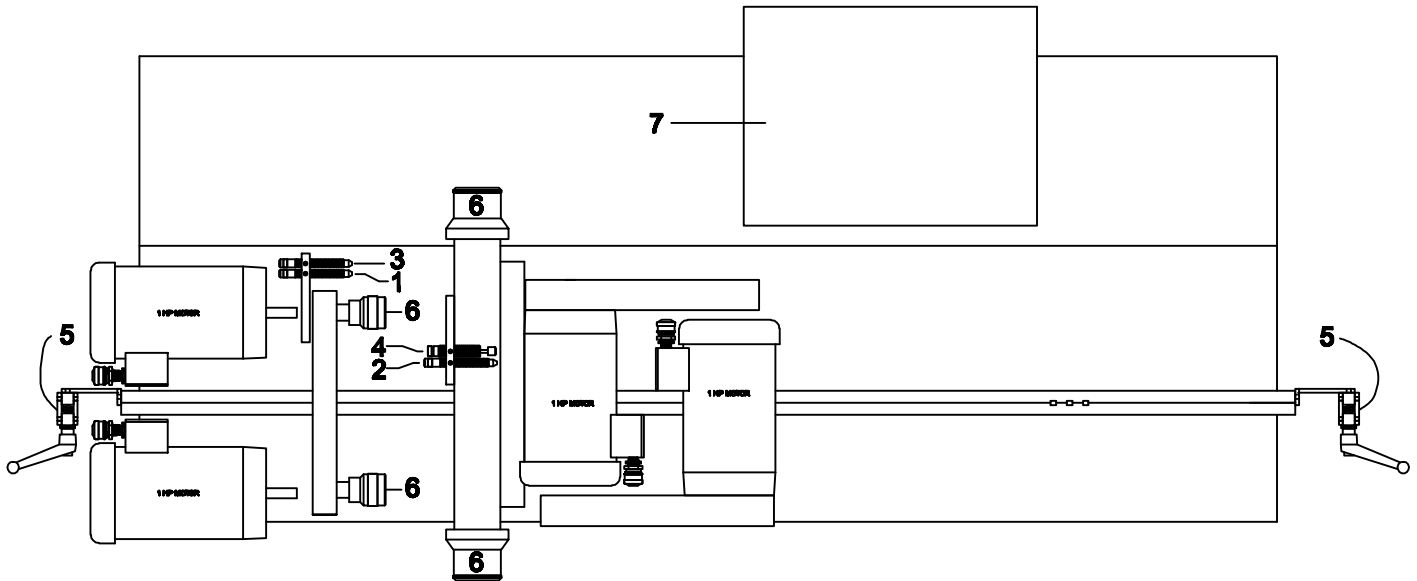
W-1904-P QUAD DUAL SIDE GRINDER

CONTROL PANEL BACKSIDE



W-1904-P QUAD DUAL SIDE GRINDER

MACHINE CONTROLS



1. Depth of grind Finish Head.
2. Depth of grind Roughing Head.
3. Grind speed Finish Head.
4. Grind speed Roughing Head.
5. Band Saw hold downs (2).
6. In-Feed knobs (4).
7. Control console.

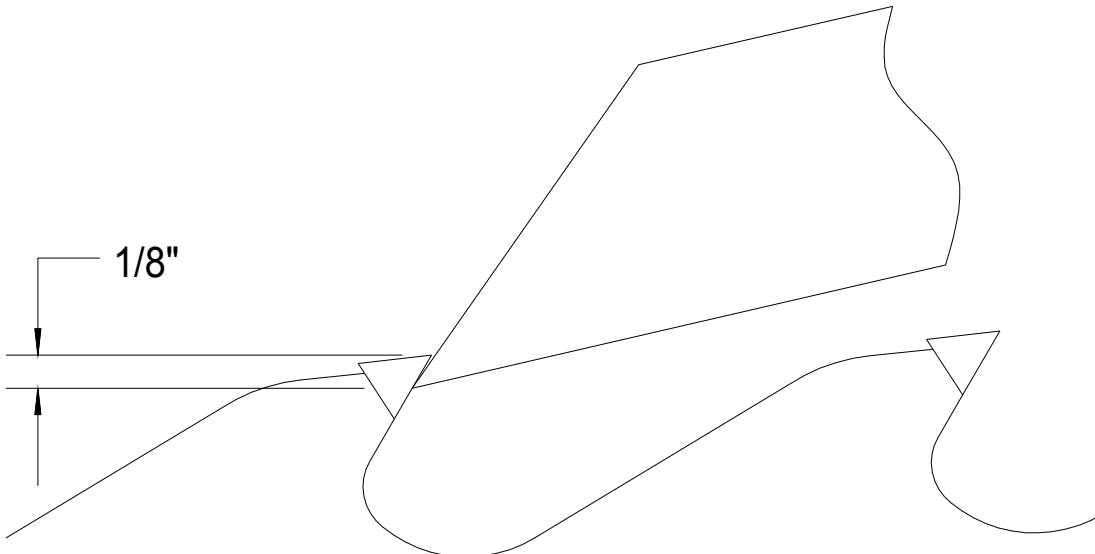
W-1904-P QUAD DUAL SIDE GRINDER

LOADING SAW

1. Turn Switch (G) to Open. Move Saw carrier Down by moving Switch (B) to Saw Down.
2. Place saw in carrier track. Move Switch (B) to Saw Up. As saw is traveling up through the Clamp Jaws, make certain that the Index Fingers are over a gullet. Otherwise the fingers and saw tooth may be damaged.

HANDS MUST BE KEPT CLEAR OF PINCH POINTS DURING THIS OPERATION

3. The band saw is in the proper position when the tooth is $1/8''$ above the Index Finger.



NOTE: The more accurate the height is set, less variation in Kerf will be experienced. If the tooth is placed higher a wider Kerf will occur. If lower, a narrower Kerf will occur.

W-1904-P QUAD DUAL SIDE GRINDER

LOADING SAW SET UP (CONTINUED)

4. Tighten Band Saw Hold Down at each end of the Saw Clamp Bar. If too tight the index will not be able to slide back, and if too loose the band saw will lift up when indexing.
5. After making sure the Index Finger is in the gullet, turn Switch (G) to Run. This will close the Clamp Jaws. Move Joy Switch (B) to the left until a tooth passes the Index Finger. Then allow Joy Switch (B) to return to center position.
6. At this time a saw tooth should be against the Index Fingers. If the index stroke is insufficient, adjust as shown on page 10
7. Set Tooth Counter (C) on the number of teeth to be ground.
8. Place Joy Switch (A) in center position, pull Start button.
9. After coolant flow is on tip, place Joy Switch (A) into Automatic #1.
10. The grinding head will travel down and grind a tooth. Set speed and stroke as necessary.
11. Adjust In-Feed knobs as necessary on the grinding head to achieve desired finish kerf width. Set speed and stroke as necessary.



W-1904-P QUAD DUAL SIDE GRINDER

TOOTH GEOMETRY

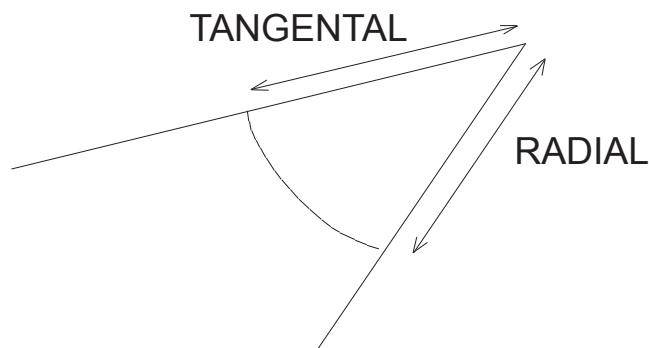
The W-1904 is set at what we consider **AVERAGE** tooth angles when it leaves our factory.

FINISH HEAD

30 Degree Hook - 8 Degree Back 3 Degree Tangential 3 Degree Radial

ROUGHING HEAD

30 Degree Hook 0 Degree Tangential 1 Degree Radial



NOTE: The Roughing Head must be set on 0 degree tangential.

If different angles are desired, adjust as follows.

RADIAL ANGLE

Loosen Radial Lock Bolts, move In-Feed handle up or down as necessary to set desired radial angle. Radial scale reads in degrees.

TANGENTIAL ANGLE

Loosen Tangential Lock Bolts and move Spindle Housing as necessary to set desired tangential angle. Tangential scale reads in degrees.



W-1904-P QUAD DUAL SIDE GRINDER

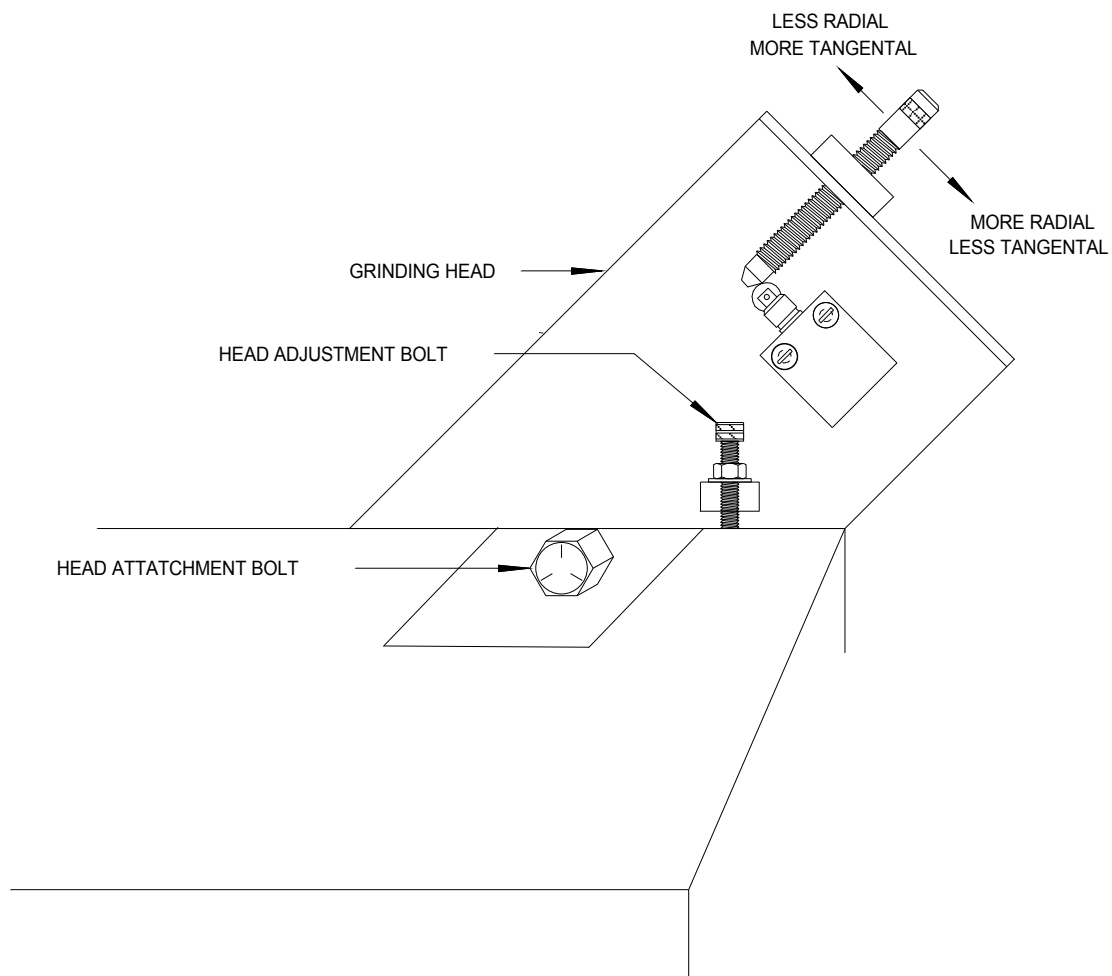
TOOTH GEOMETRY

INCREASE RADIAL ANGLE VS TANGENTIAL ANGLE

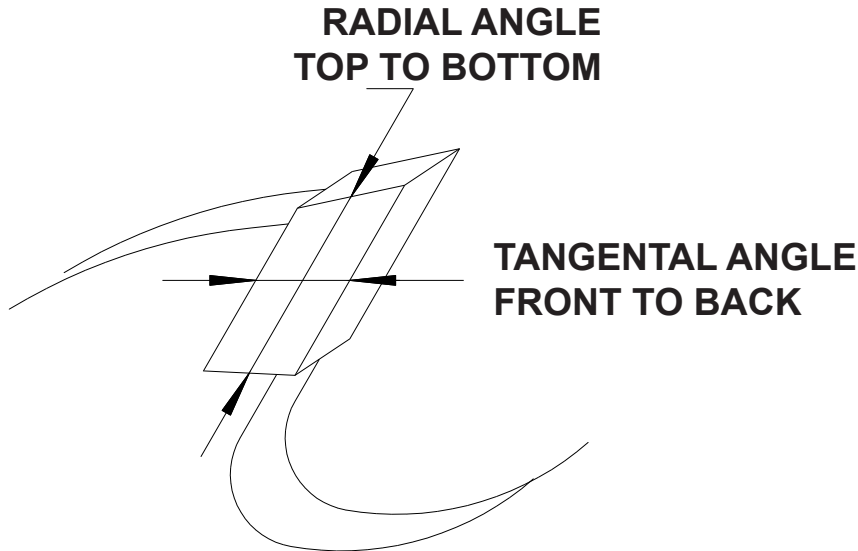
Loosen bolts that attach head to base and rotate head using adjustment bolt.

INCREASE RADIAL AND TANGENTIAL ANGLE

Loosen feed finger tower bolts and move tower to the right to increase both angles. Move tower to the left to decrease angles. Rotating head clockwise increases radial angle and decreases tangential angle. Rotating head counter-clockwise increases tangential angle and decreases radial angle.



W-1904-P QUAD DUAL SIDE GRINDER



CONVERSION CHART

DEGREES OF ANGLE CONVERTED TO DROP OFF IN THOUSANDTHS X DISTANCE.

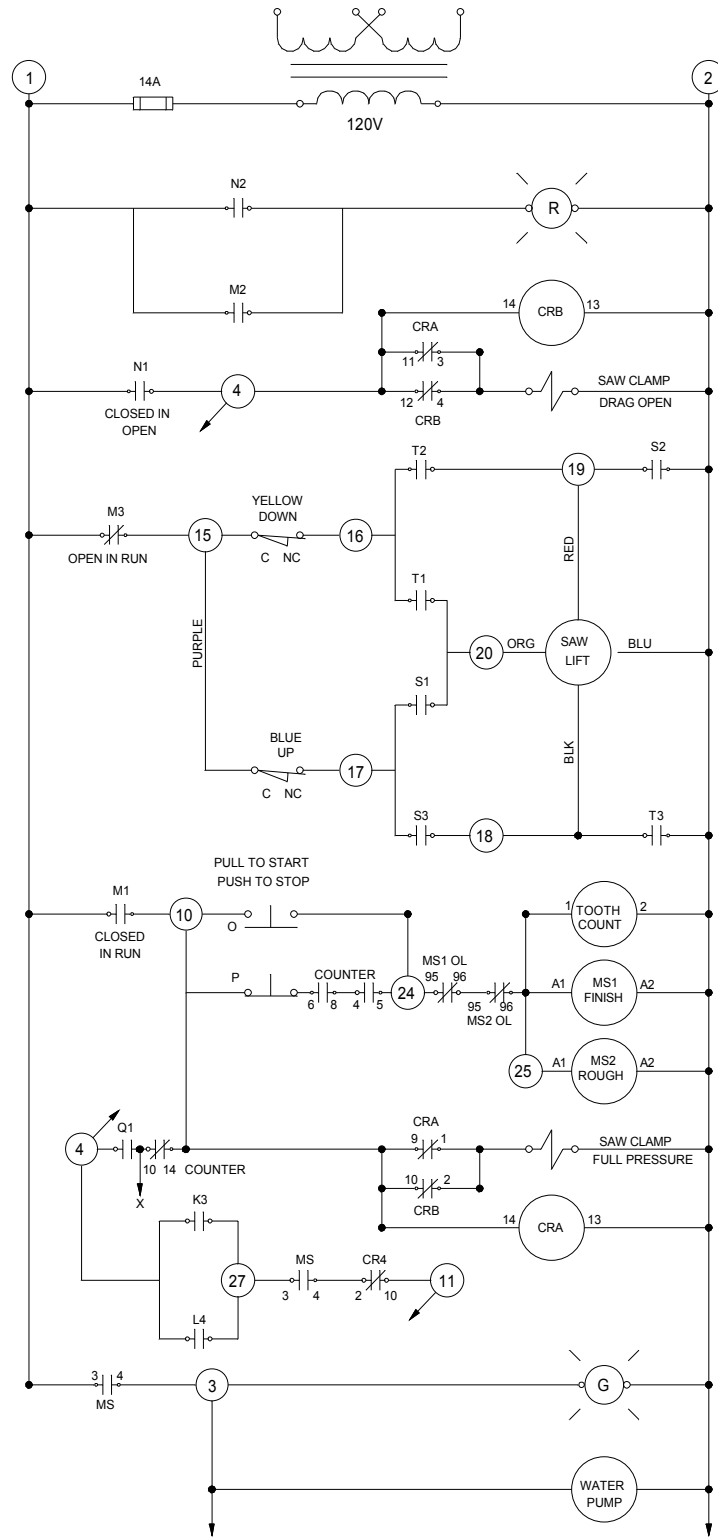
To convert degrees to thousandths, select degrees required on line (A). Example: 3.5 degrees. On line (B) select length of measurement. Example: .375 for a 3/8 tip. Where 3.5 degrees and .375 intersect is drop off in thousandths of an inch.

Line (A)	.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
.125	1	2	3	4	5	6	7	8	9	10	11	12
.250	2	4	7	9	11	13	15	18	20	22	24	26
.312	3	5	8	11	14	16	19	22	25	27	30	33
.375	3	7	10	13	16	20	23	26	30	33	36	39
.437	4	8	11	15	19	23	27	30	34	38	42	46
.500	4	9	13	17	22	26	31	35	39	44	48	52
Line (B)												



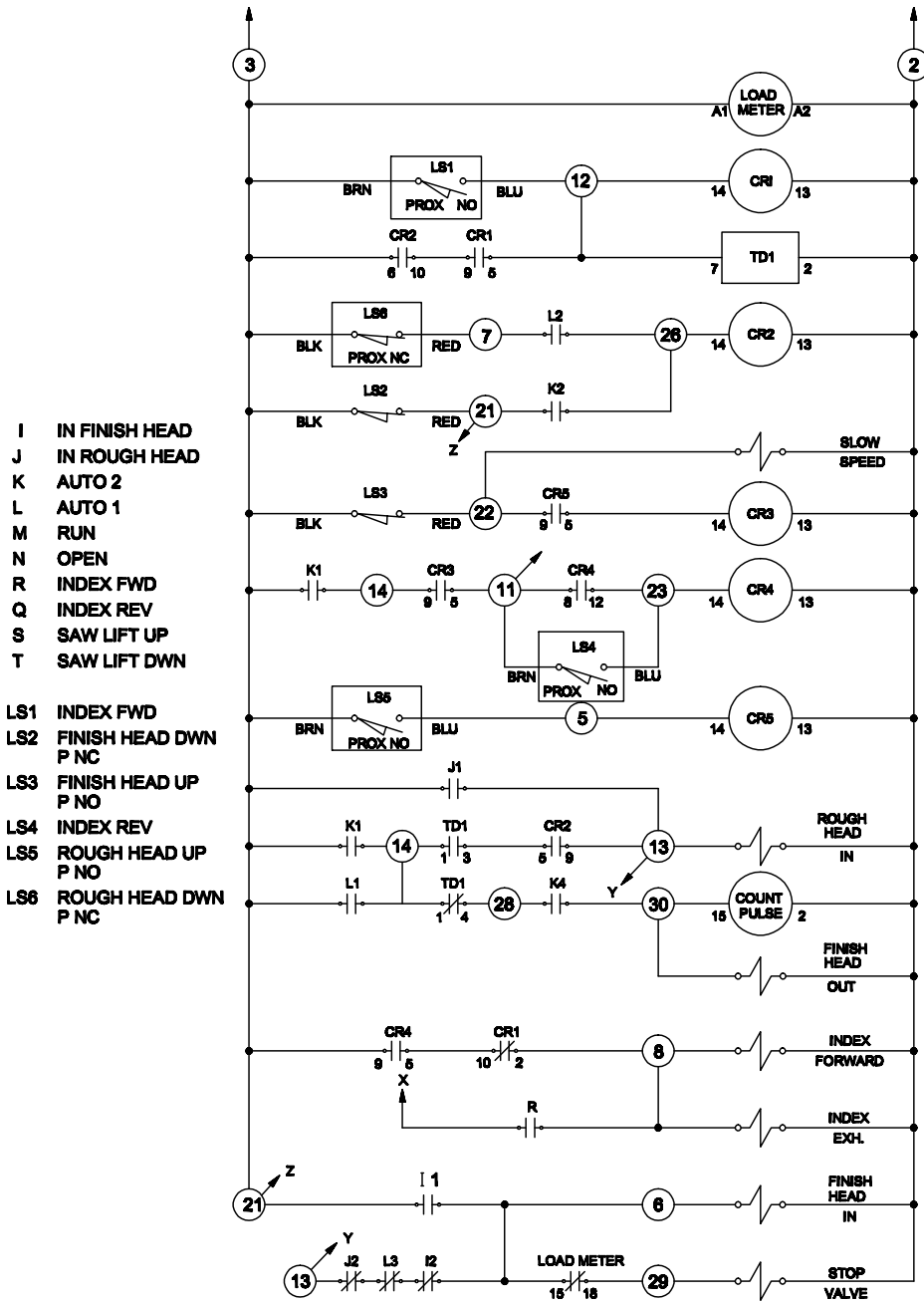
W-1904-P QUAD DUAL SIDE GRINDER

ELECTRICAL SCHEMATIC



W-1904-P QUAD DUAL SIDE GRINDER

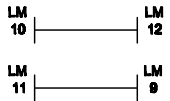
ELECTRICAL SCHEMATIC



- I IN FINISH HEAD
- J IN ROUGH HEAD
- K AUTO 2
- L AUTO 1
- M RUN
- N OPEN
- R INDEX FWD
- Q INDEX REV
- S SAW LIFT UP
- T SAW LIFT DWN

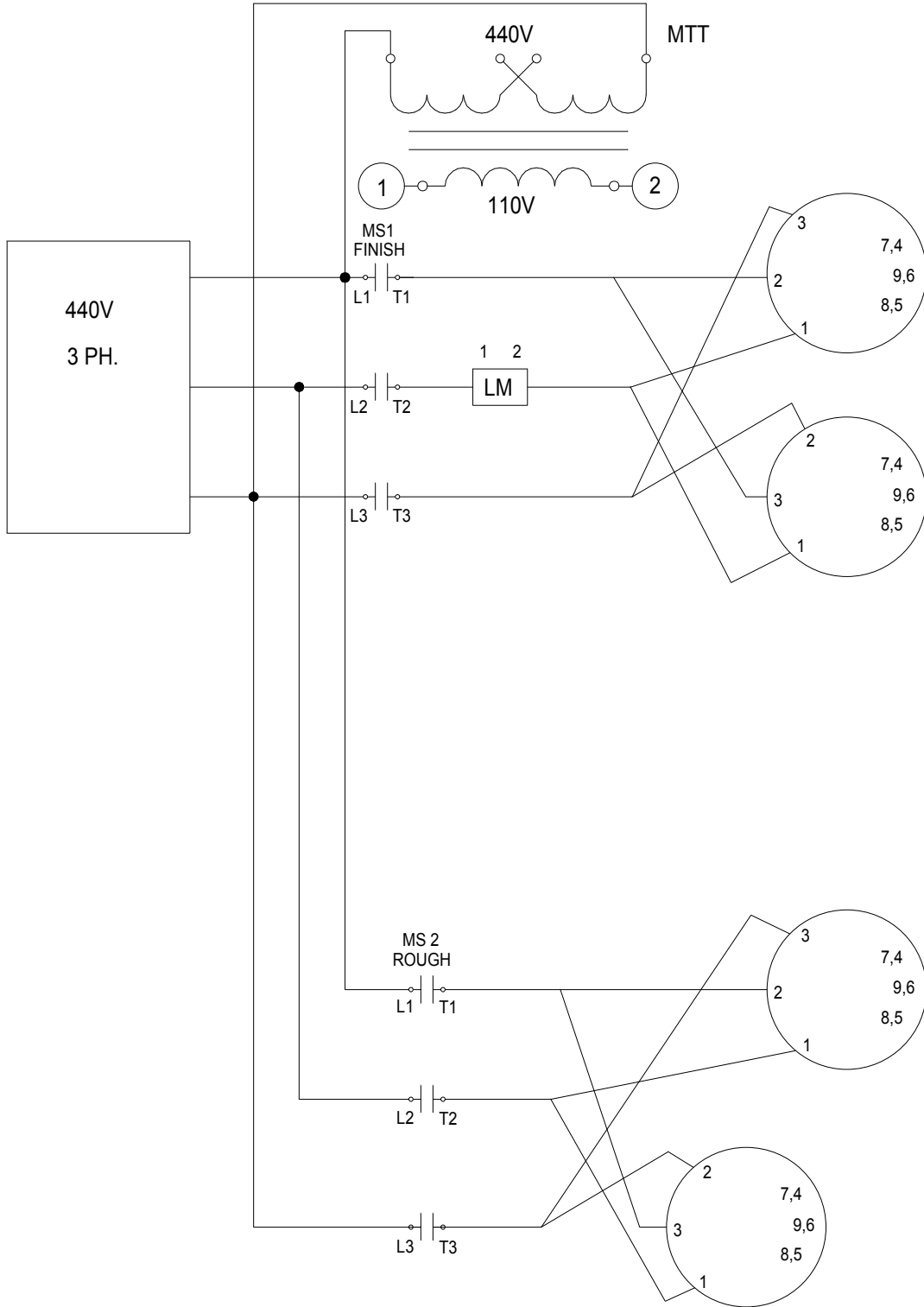
- LS1 INDEX FWD
- LS2 FINISH HEAD DWN
P NC
- LS3 FINISH HEAD UP
P NO
- LS4 INDEX REV
- LS5 ROUGH HEAD UP
P NO
- LS6 ROUGH HEAD DWN
P NC

LM-3 TO MS-1 T-2
 LM-5 TO WHITE WIRES
 ON FINISH HEADS
 LOAD METER WIRES ARE
 ORANGE 12GA. 126" LG.
 GROUND WIRES ARE
 GREEN 12GA. 9' LG.



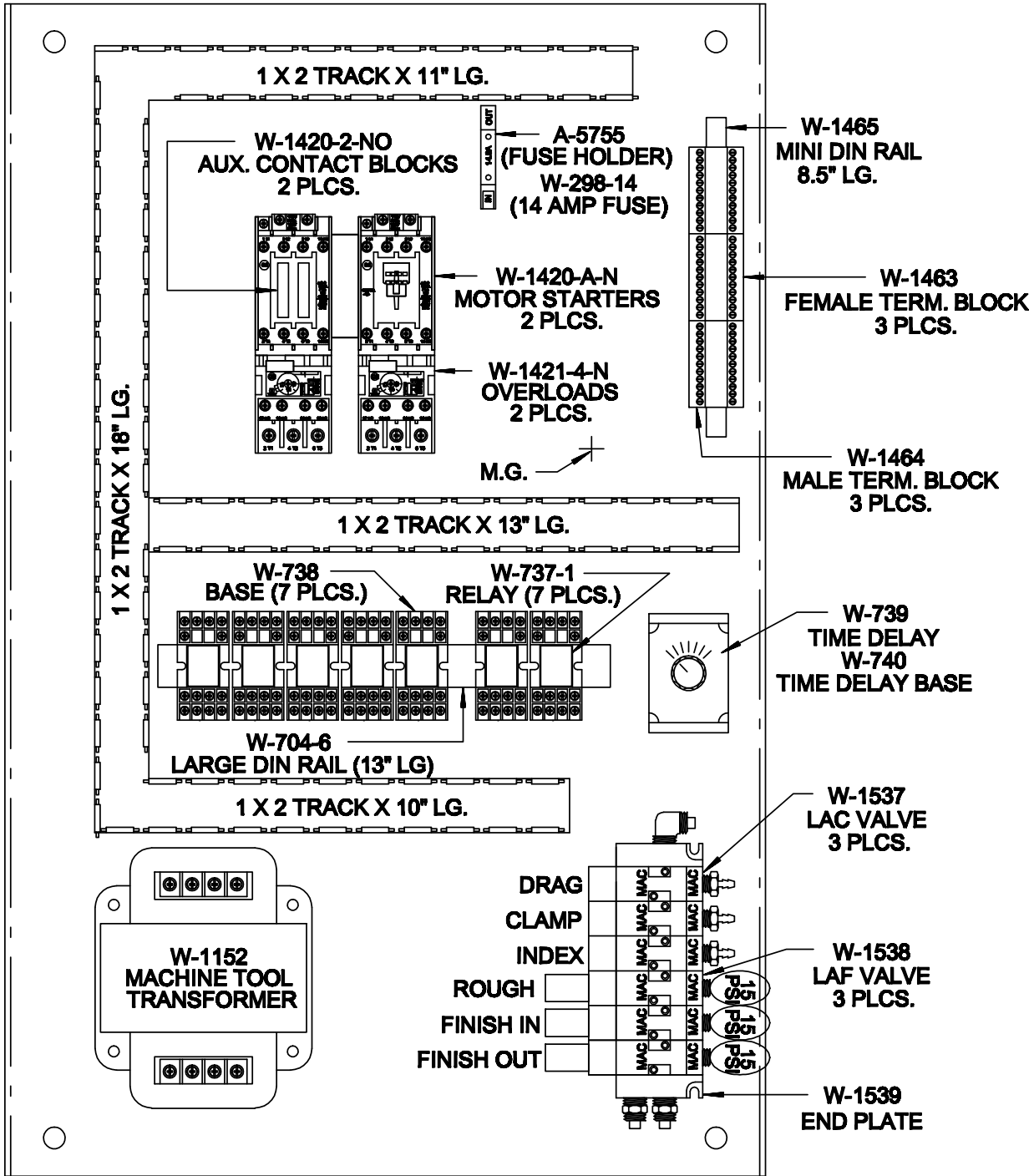
W-1904-P QUAD DUAL SIDE GRINDER

ELECTRICAL SCHEMATIC



W-1904-P QUAD DUAL SIDE GRINDER

SUB PANEL ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

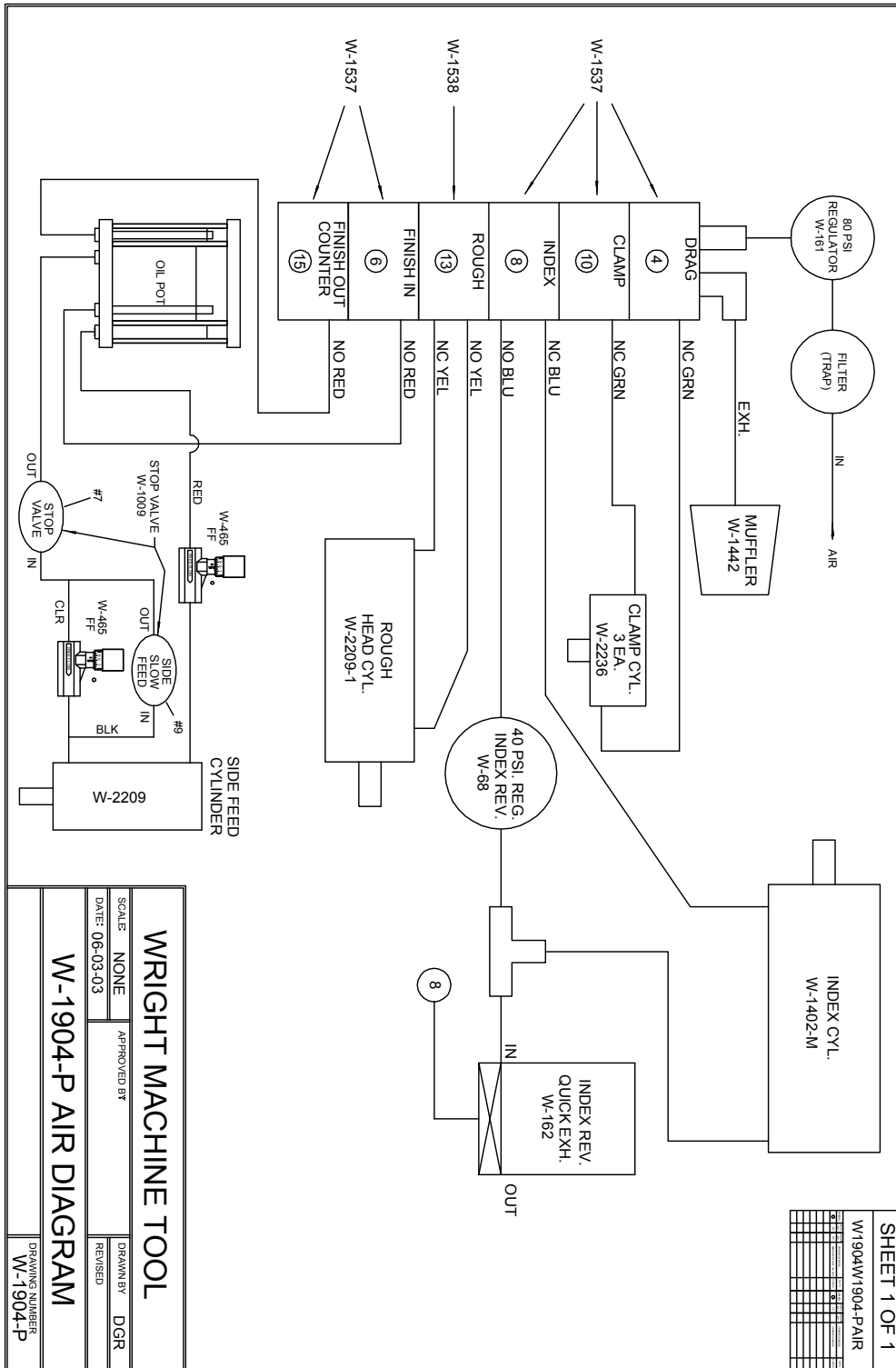
SUB PANEL ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	A-5755	FUSE HOLDER
2	F-11	10-24 NUT
18	F-56	#10 SAE WASHER
18	F-333	10-24 X 3/8 SCREW
1	F-337	10-24 X 1-1/4 SCREW
2	F-345	8-32 X 3/8 SCREW
2	F-357	10-24 X 1-1/2 SCREW
1	W-298-14	14 AMP FUSE
1	W-2202-Q	SHEET METAL PANEL
7	W-737-1	RELAY W/LIGHT
7	W-738	RELAY BASE
13"	W-704-6	LARGE DIN RAIL
1	W-739	TIME DELAY
1	W-740	TIME DELAY BASE
1	W-1152	MACHINE TOOL TRANSFORMER
52"	W-1446	1" X 2" SLA TRACK
2	W-1420-2-NO	AUX. CONTACT BLOCK
2	W-1420-A-N	MOTOR STARTER
2	W-1421-4-N	OVERLOAD
3	W-1463	FEMALE TERMINAL BLOCKS
3	W-1464	MALE TERMINAL BLOCK
8.5"	W-1465	MINI DIN RAIL
3	W-1537	LAC VALVES
2	W-1538	LAF VALVES
1 SET	W-1539	END PLATE



W-1904-P QUAD DUAL SIDE GRINDER

AIR SCHEMATIC



WRIGHT MACHINE TOOL

SCALE: NONE
DATE: 06-03-03
APPROVED BY: DGR
DRAWN BY: DGR
REVISED: _____

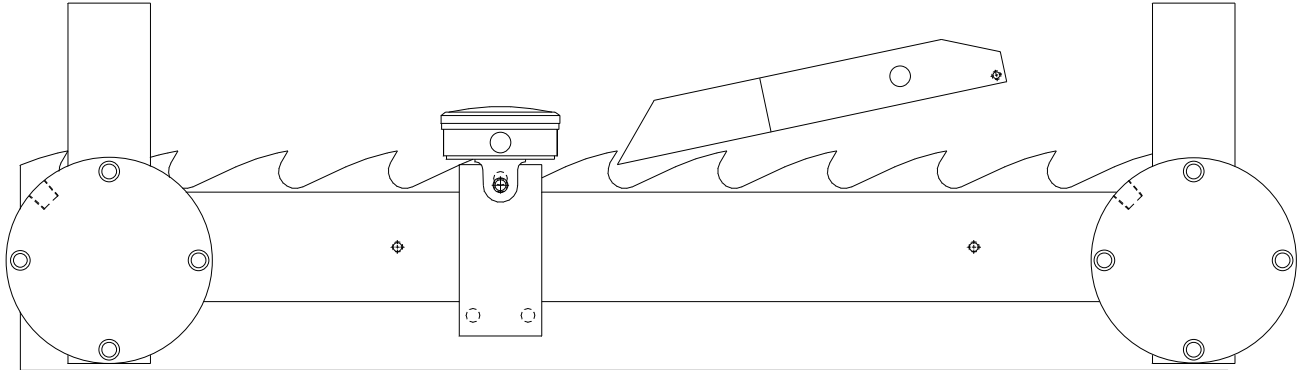
W-1904-P AIR DIAGRAM

DRAWING NUMBER: W-1904-P

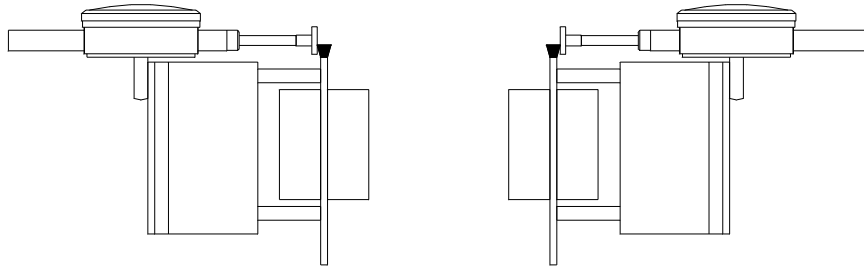
SHEET 1 OF 1
W1904W1904-PAIR



W-1904-P QUAD DUAL SIDE GRINDER



**NOTE: USE SIDE DIAL INDICATOR WITH CLAMP JAWS
CLOSED.
THIS WILL INSURE PROPER MEASUREMENT.**



W-1904-P QUAD DUAL SIDE GRINDER

PARTS LIST

This parts list is broken down into various areas within the machine. Each of the following areas have part numbers that start on the first page with an assembly view on the following page.

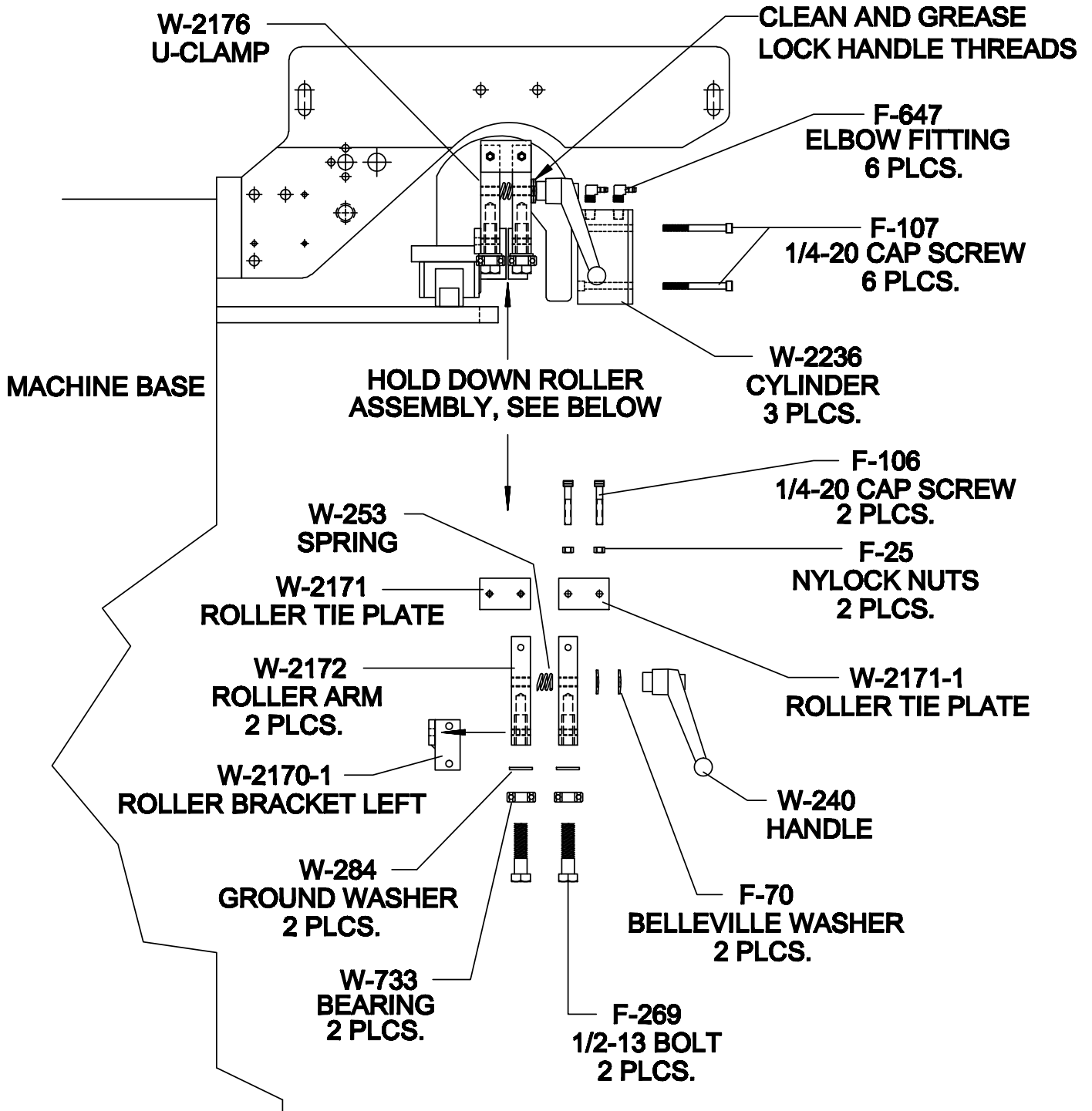
LEFT END OF BASE (OUTSIDE)

QTY	PART NUMBER	DESCRIPTION
2	F-25	NYLOCK NUTS
2	F-70	BELLEVILLE WASHER
2	F-106	1/4-20 SOCKET HEAD CAP SCREW
6	F-107	1/4-20 SOCKET HEAD CAP SCREW
2	F-269	1/2-13 BOLT
6	F-647	ELBOW FITTING
1	W-240	HANDLE
1	W-253	COMPRESSION SPRING
2	W-284	GROUND WASHER
2	W-733	BEARING
1	W-2170-1	ROLLER BRACKET LEFT
1	W-2171	ROLLER TIE PLATE
1	W-2171-1	ROLLER TIE PLATE
2	W-2172	ROLLER ARM
1	W-2176	U-CLAMP
3	W-2236	AIR CYLINDER



W-1904-P QUAD DUAL SIDE GRINDER

LEFT END OF BASE (OUTSIDE)



W-1904-P QUAD DUAL SIDE GRINDER

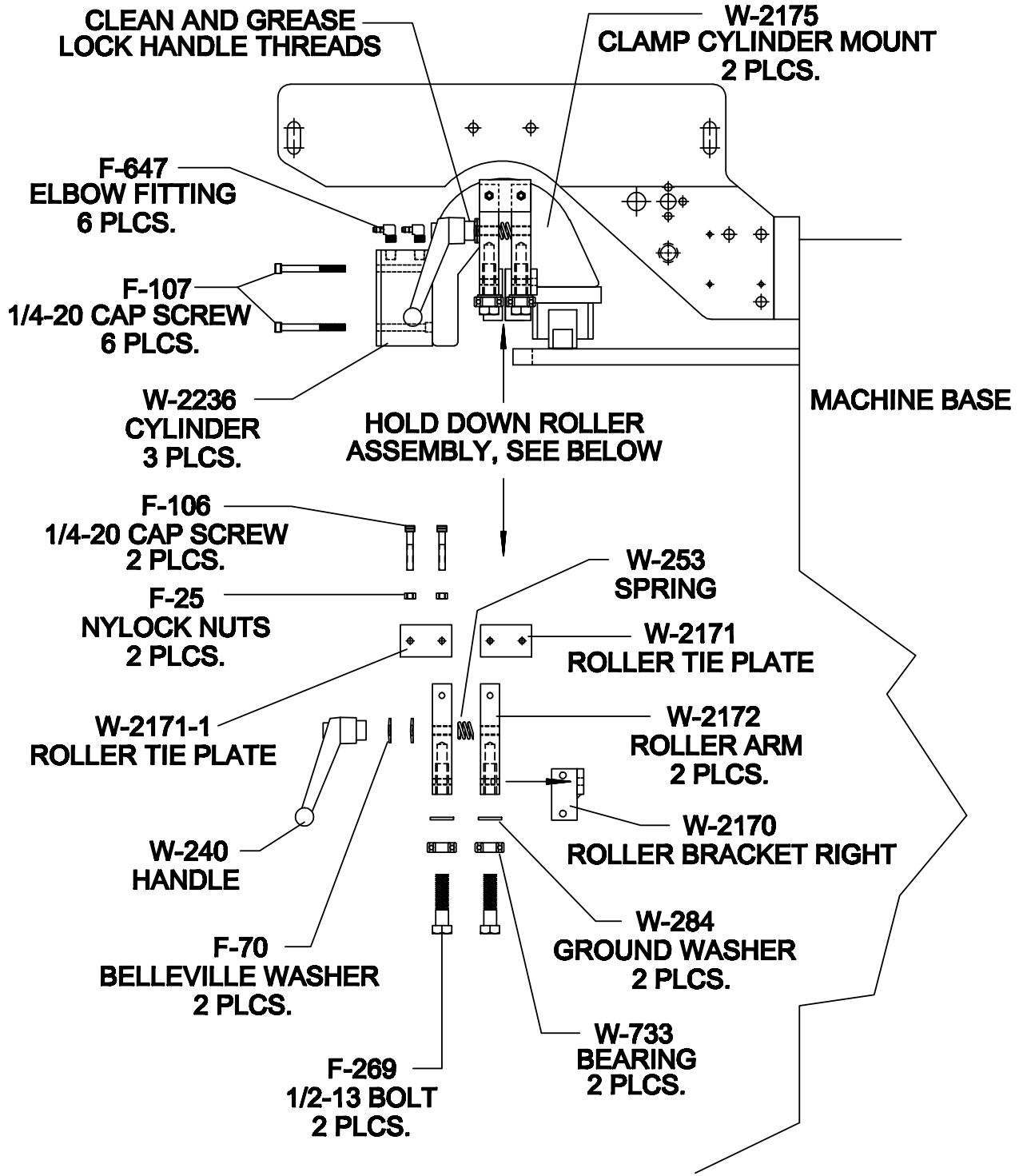
RIGHT END OF BASE (OUTSIDE)

QTY	PART NUMBER	DESCRIPTION
2	F-25	NYLOCK NUTS
2	F-70	BELLEVILLE WASHER
2	F-106	1/4-20 SOCKET HEAD CAP SCREW
6	F-107	1/4-20 SOCKET HEAD CAP SCREW
2	F-269	1/2-13 BOLT
6	F-647	ELBOW FITTING
1	W-240	HANDLE
1	W-253	COMPRESSION SPRING
2	W-284	GROUND WASHER
2	W-733	BEARING
1	W-2170	ROLLER BRACKET RIGHT
1	W-2171	ROLLER TIE PLATE
1	W-2171-1	ROLLER TIE PLATE
2	W-2172	ROLLER ARM
2	W-2175	CLAMP CYLINDER MOUNT
3	W-2236	AIR CYLINDER



W-1904-P QUAD DUAL SIDE GRINDER

RIGHT END OF BASE (OUTSIDE)



W-1904-P QUAD DUAL SIDE GRINDER

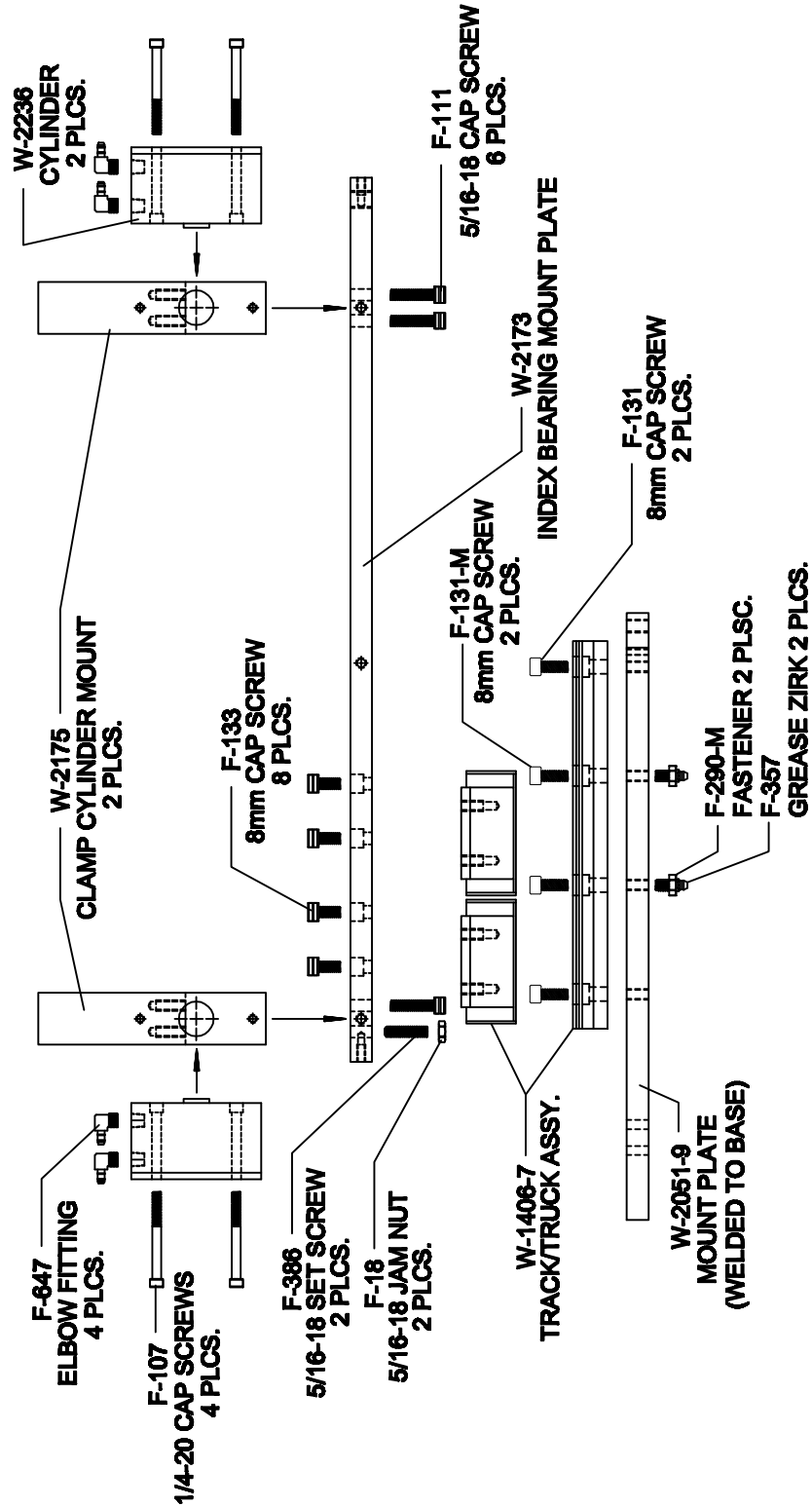
CLAMP FEED SYSTEM

QTY	PART NUMBER	DESCRIPTION
2	F-18	5/16-18 JAM NUT
4	F-107	1/4-20 CAP SCREW
6	F-111	5/16-18 CAP SCREW
2	F-131	8mm CAP SCREW
2	F-131-M	8MM CAP SCREW
8	F-133	8mm CAP SCREW
2	F-290-M	8MM HEX BOLT
2	F-357	GREASE ZIRK
2	F-386	5/16-18 SET SCREW
4	F-647	ELBOW FITTING
1	W-1406	TRACK/TRUCK ASSEMBLY
1	W-2051-9	MOUNT PLATE
1	W-2173	INDEX BEARING MOUNT PLATE
2	W-2175	CLAMP CYLINDER MOUNT
2	W-2236	AIR CYLINDER



W-1904-P QUAD DUAL SIDE GRINDER

FRONT VIEW OF CLAMP FEED SYSTEM



W-1904-P QUAD DUAL SIDE GRINDER

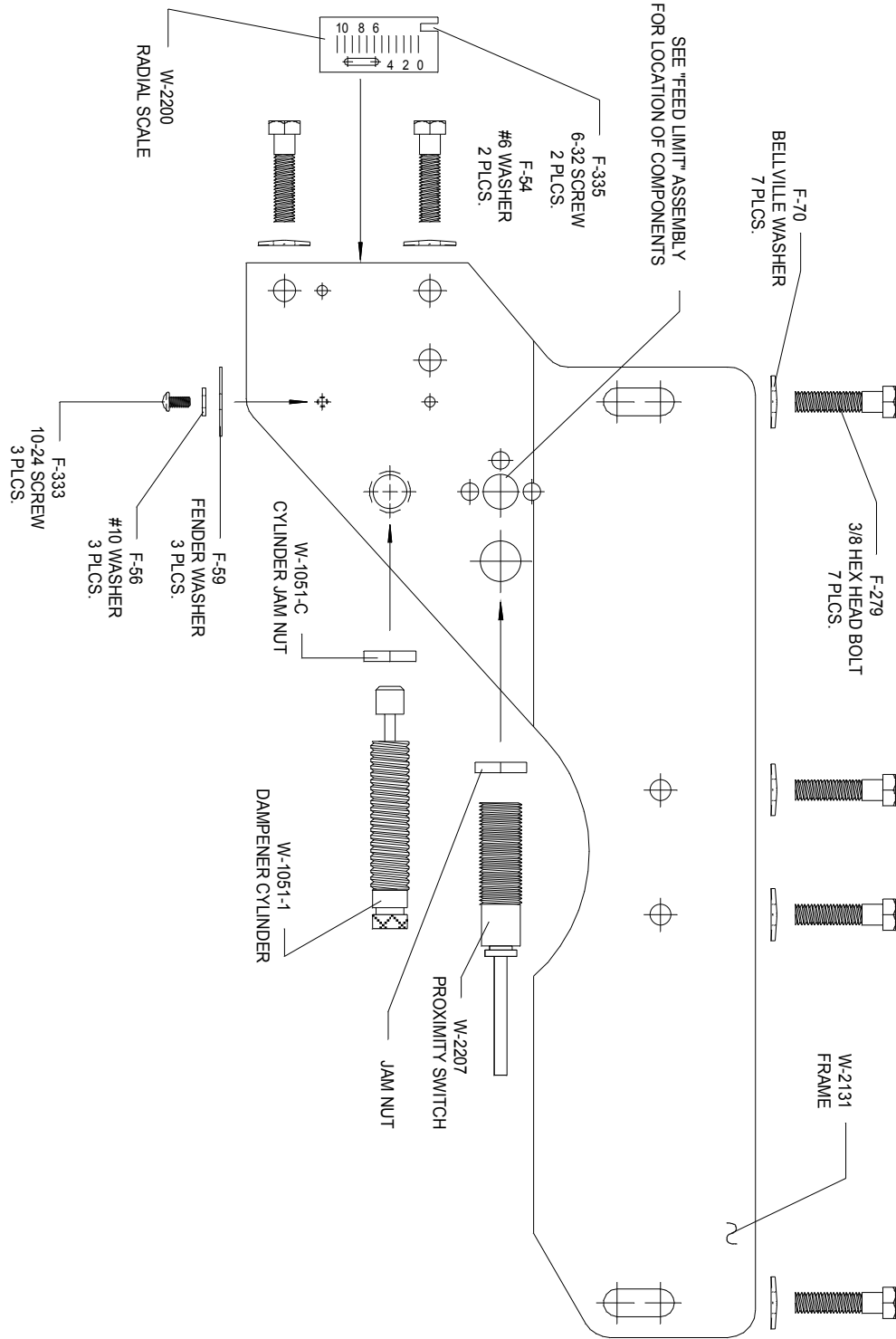
FRAME MOUNT FOR GRINDING HEAD

QTY	PART NUMBER	DESCRIPTION
2	F-54	#6 WASHER
3	F-56	#10 WASHER
3	F-59	FENDER WASHER
7	F-70	BELLEVILLE WASHER
7	F-279	3/8-16 HEX HEAD BOLT
3	F-333	10-24 SET SCREW
2	F-335	6-32 CAP SCREW
1	W-1051-C	CYLINDER JAM NUT
1	W-1051-1	DAMPENER CYLINDER
1	W-2131	FRAME
1	W-2200	RADIAL SCALE
1	W-2207	PROXIMITY SWITCH



W-1904-P QUAD DUAL SIDE GRINDER

FRAME MOUNT FOR GRINDING HEAD



W-1904-P QUAD DUAL SIDE GRINDER

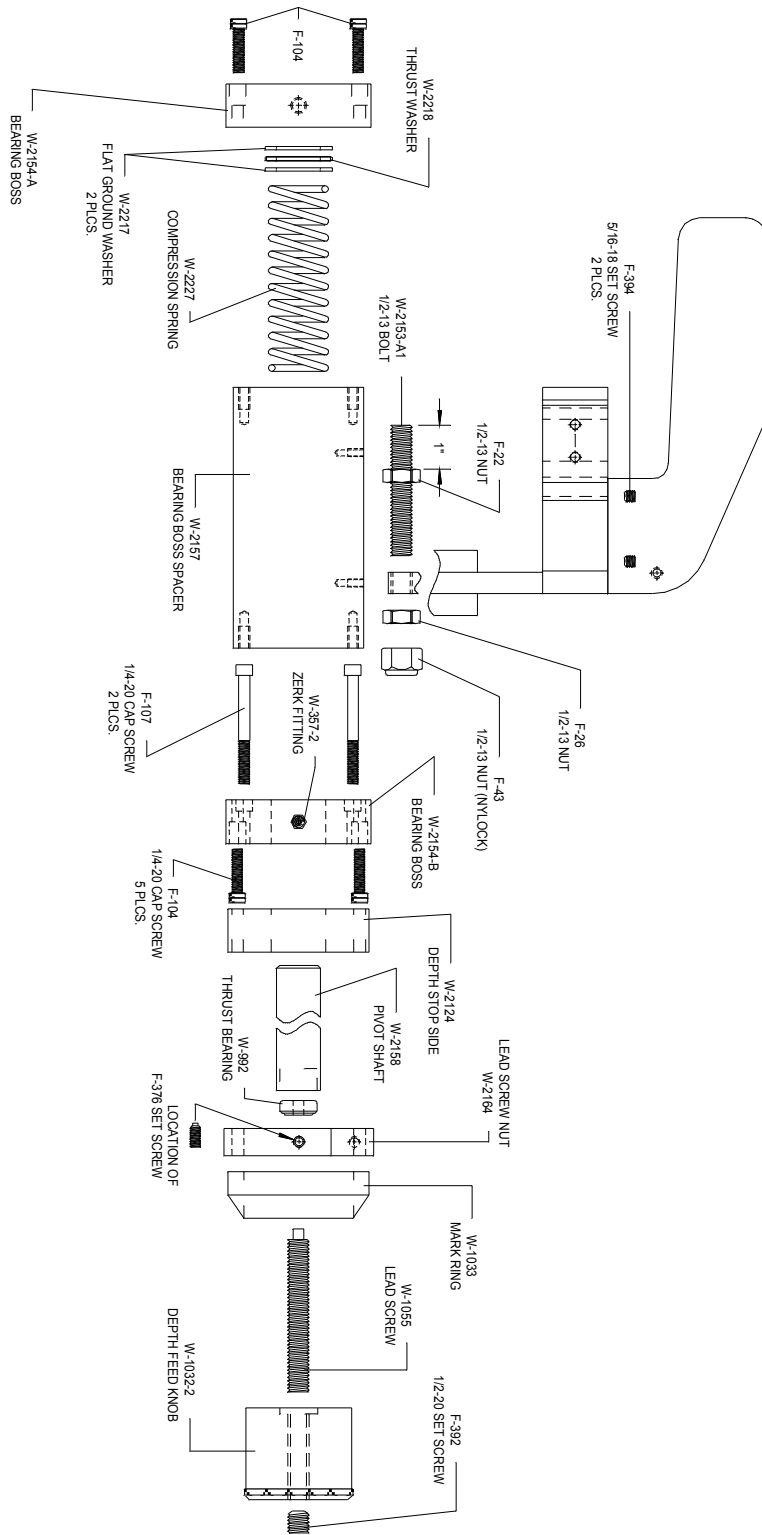
(INNER) GRINDING HEAD ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-22	1/2-13 NUT
1	F-26	1/2-13 NUT
1	F-43	1/2-13 NYLOCK NUT
5	F-104	1/4-20 CAP SCREW
2	F-107	1/4-20 CAP SCREW
1	F-376	1/4-20 SET SCREW
1	F-392	1/2-20 SET SCREW
2	F-394	5/16-18 SET SCREW
1	W-357-2	ZERK FITTING
1	W-992	THRUST BEARING
1	W-1032-2	DEPTH FEED KNOB
1	W-1033	MARK RING
1	W-1055	LEAD SCREW
1	W-2124	DEPTH STOP SIDE
1	W-2153-A1	1/2-13 BOLT
1	W-2154-A	BEARING BOSS
1	W-2154-B	BEARING BOSS
1	W-2157	BEARING BOSS SPACER
1	W-2158	PIVOT SHAFT
1	W-2164	LEAD SCREW NUT
2	W-2217	FLAT GROUND WASHER
1	W-2218	THRUST WASHER



W-1904-P QUAD DUAL SIDE GRINDER

INNER GRINDING HEAD ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

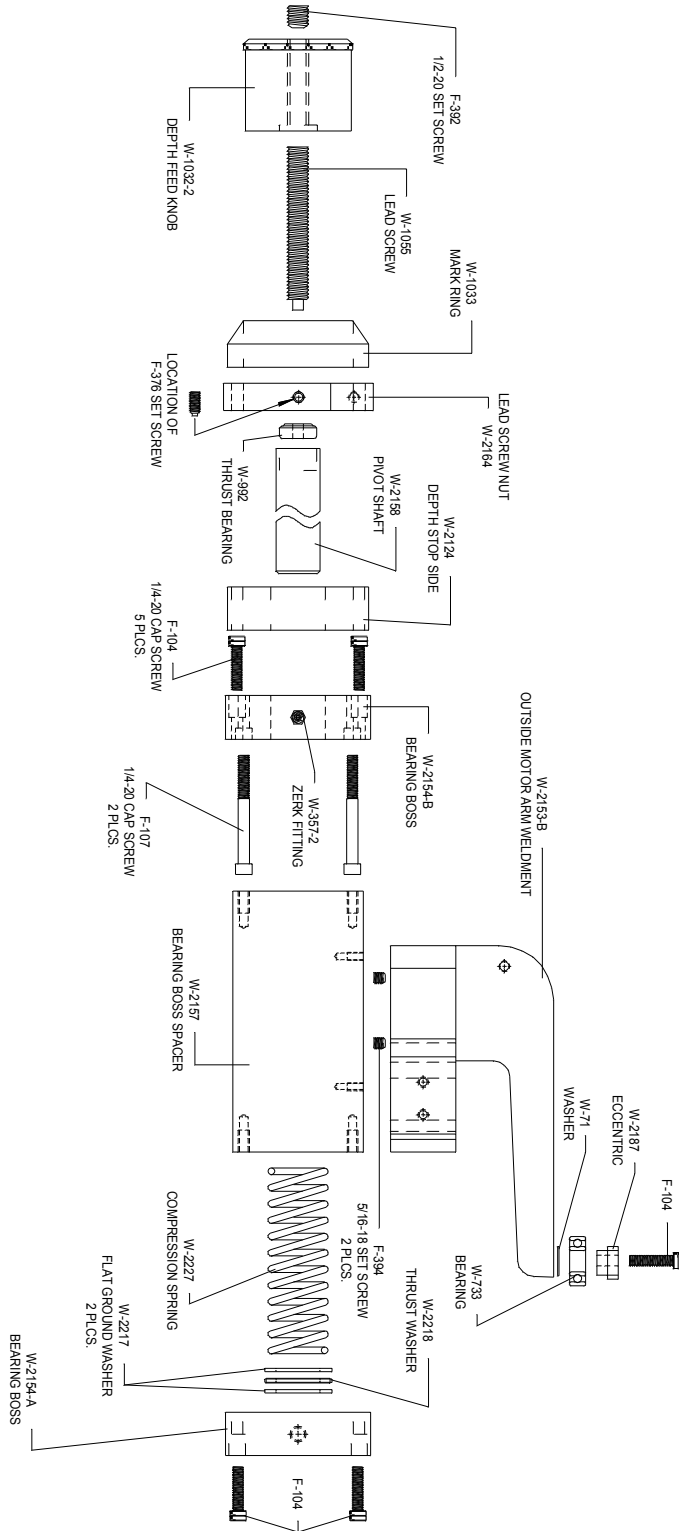
(OUTER) GRINDING HEAD ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
5	F-104	1/4-20 CAP SCREW
2	F-107	1/4-20 CAP SCREW
1	F-376	1/4-20 SET SCREW
1	F-392	1/2-20 SET SCREW
2	F-394	5/16-18 SET SCREW
1	W-71	WASHER
1	W-357-2	ZERK FITTING
1	W-733	BEARING
1	W-992	THRUST BEARING
1	W-1032-2	DEPTH FEED KNOB
1	W-1033	MARK RING
1	W-1055	LEAD SCREW
1	W-2124	DEPTH STOP SIDE
1	W-2153-B	OUTSIDE MOTOR ARM WELDMENT
1	W-2154-A	BEARING BOSS
1	W-2154-B	BEARING BOSS
1	W-2157	BEARING BOSS SPACER
1	W-2158	PIVOT SHAFT
1	W-2164	LEAD SCREW NUT
1	W-2187	ECCENTRIC
1	W-2217	FLAT GROUND WASHER
1	W-2218	THRUST WASHER
1	W-2227	COMPRESSION SPRING



W-1904-P QUAD DUAL SIDE GRINDER

OUTER GRINDING HEAD ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

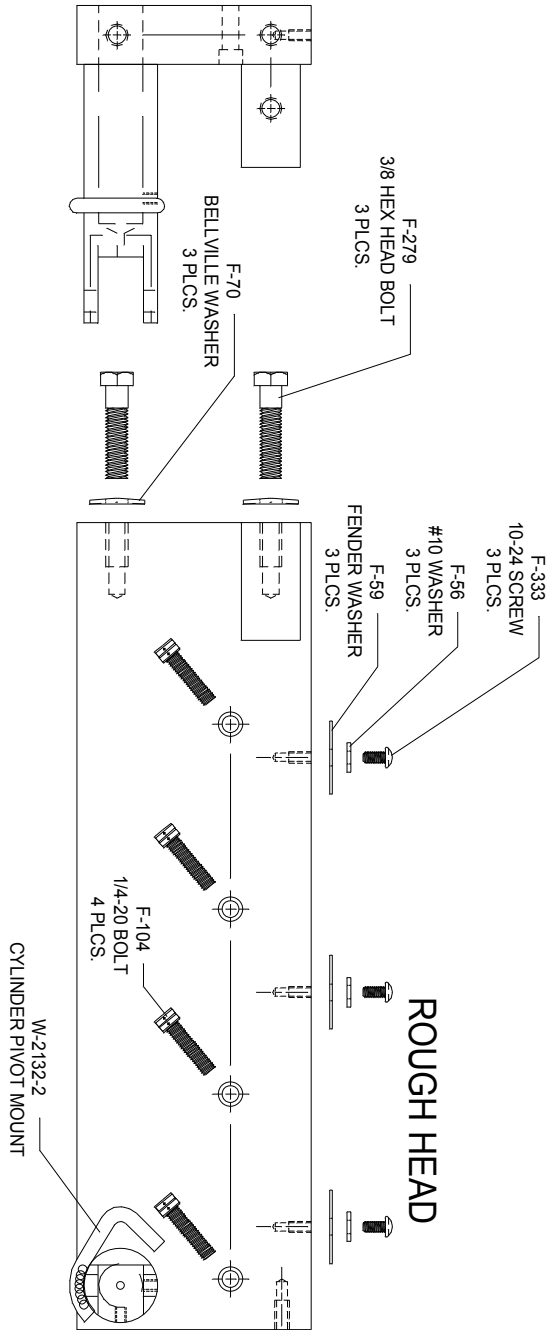
GRIND HEAD ARM ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
8	F-56	#10 WASHER
8	F-59	FENDER WASHER
6	F-70	BELLEVILLE WASHER
4	F-104	1/4-20 CAP SCREW
6	F-279	3/8-16 HEX HEAD BOLT
1	F-284	5/8 UNF HEX HEAD BOLT
8	F-333	10-24 CAP SCREW
1	F-436	1/4 X 1 DOWEL PIN
2	W-2132-2	CYLINDER PIVOT MOUNT



W-1904-P QUAD DUAL SIDE GRINDER

GRIND HEAD ARM ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

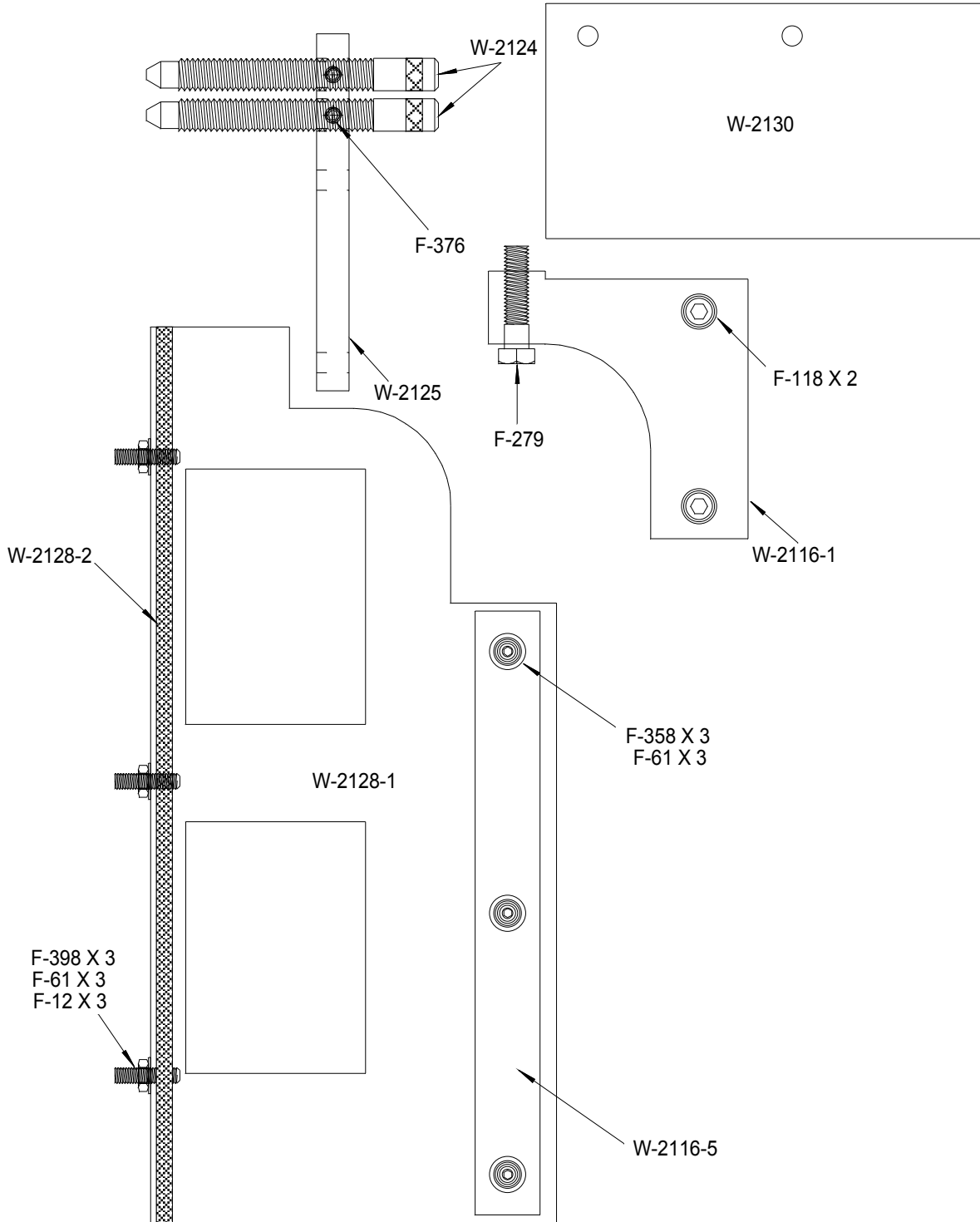
GRINDING HEAD COVERS

QTY	PART NUMBER	DESCRIPTION
3	F-12	1/4-20 JAM NUT
3	F-61	#12 WASHER
2	F-118	3/8 - 16 X 1-1/4 SHCS
1	F-279	3/8 - 16 X 1-1/2 HEX HEAD
3	F-358	1/4-20 X 1/2 BUTTON HEAD
2	F-376	1/4-20 X 1/2 SET SCREW
3	F-398	1/4-20 X 1 SET SCREW
1	W-2116-1	SUPPORT GUSSET
1	W-2116-5	RUBBER FLAP CLAMP
2	W-2124	DEPTH STOP
1	W-2125	STOP BRACKET
1	W-2128-1	BOTTOM COVER
1	W-2128-2	RUBBER FLAP CLAMP
1	W-2130	TRACK COVER



W-1904-P QUAD DUAL SIDE GRINDER

GRINDING HEAD COVERS



W-1904-P QUAD DUAL SIDE GRINDER

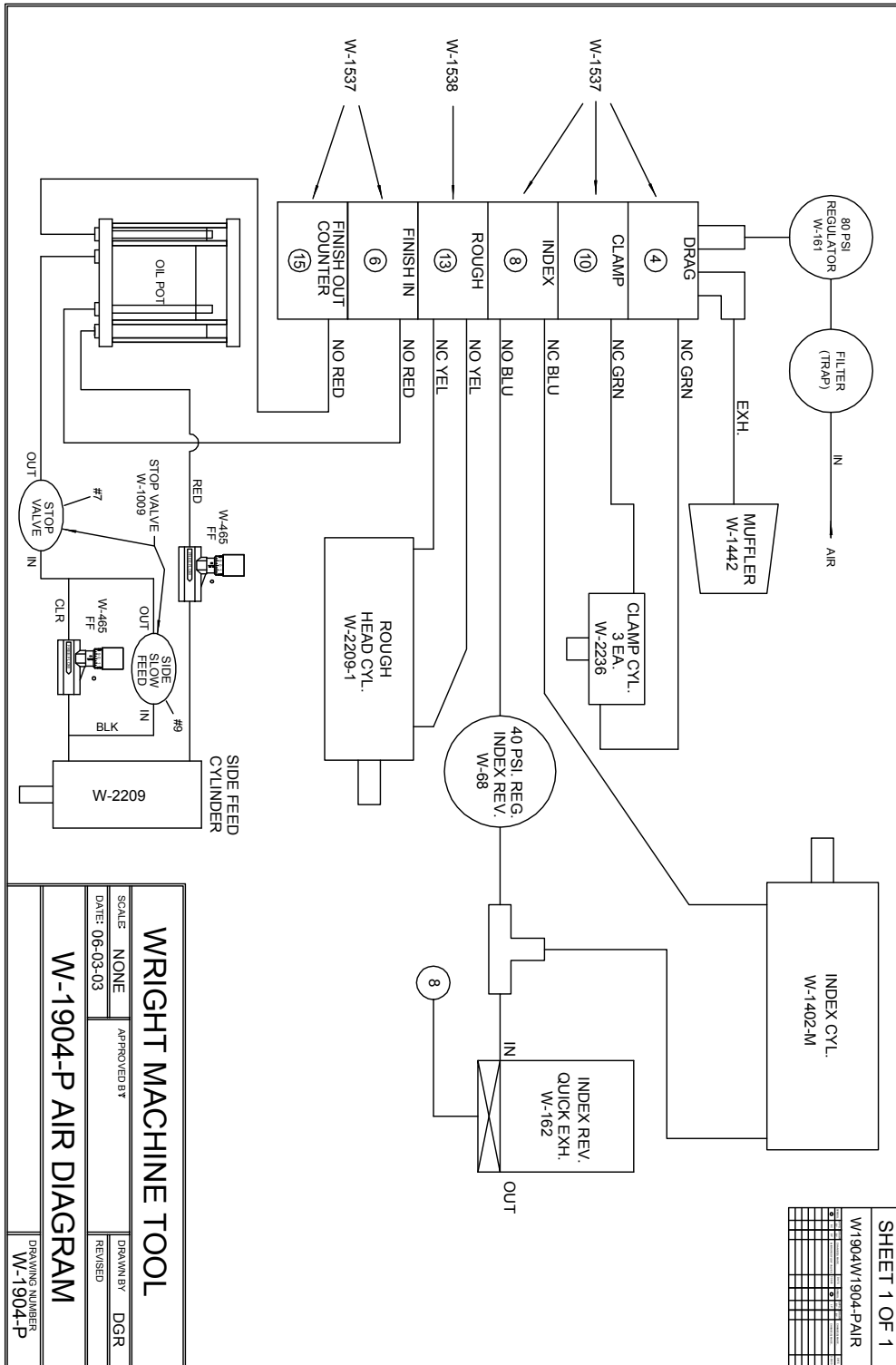
FEED FINGER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-12	1/4-20 JAM NUT
1	F-32	3/8-24 JAM NUT
1	F-38	NYLOCK NUT 3/8-24
1	F-102	SHCS 1/4-20 X 1-1/2
2	F-104	1/4-20 CAP SCREW
1	F-106	SHCS 1/4-20 X 5/8
2	F-122	3/8-16 CAP SCREW
1	F-379	SET SCREW 1/4-20 X 5/8
1	F-391	1/4-20 SET SCREW
1	F-608	FITTING
1	F-612-1	SHUT OFF VALVE
1	F-620	ELBOW FITTING
1	F-660	FITTING
2	W-436	THRUST BEARING
1	W-437	WASHER (BEARING RACE)
1	W-263	SPRING
1	W-632-2	SPACER
5	W-667	FLAT GROUND WASHER
1	W-1294-C	1/8 N.P.T. CONNECTOR
1	W-1294-3	COOLANT FITTING
2	W-1411	O-RING
1	W-2184	FINGER BRACKET
1	W-2184-3	HOLD DOWN STRAP
1	W-2185	FINGER PIVOT
1	W-2186-2	INDEX FEED FINGER
1	W-2188	BEARING COVER
2	W-2188-1	BEARING COVER



W-1904-P QUAD DUAL SIDE GRINDER

FEED FINGER ASSEMBLY



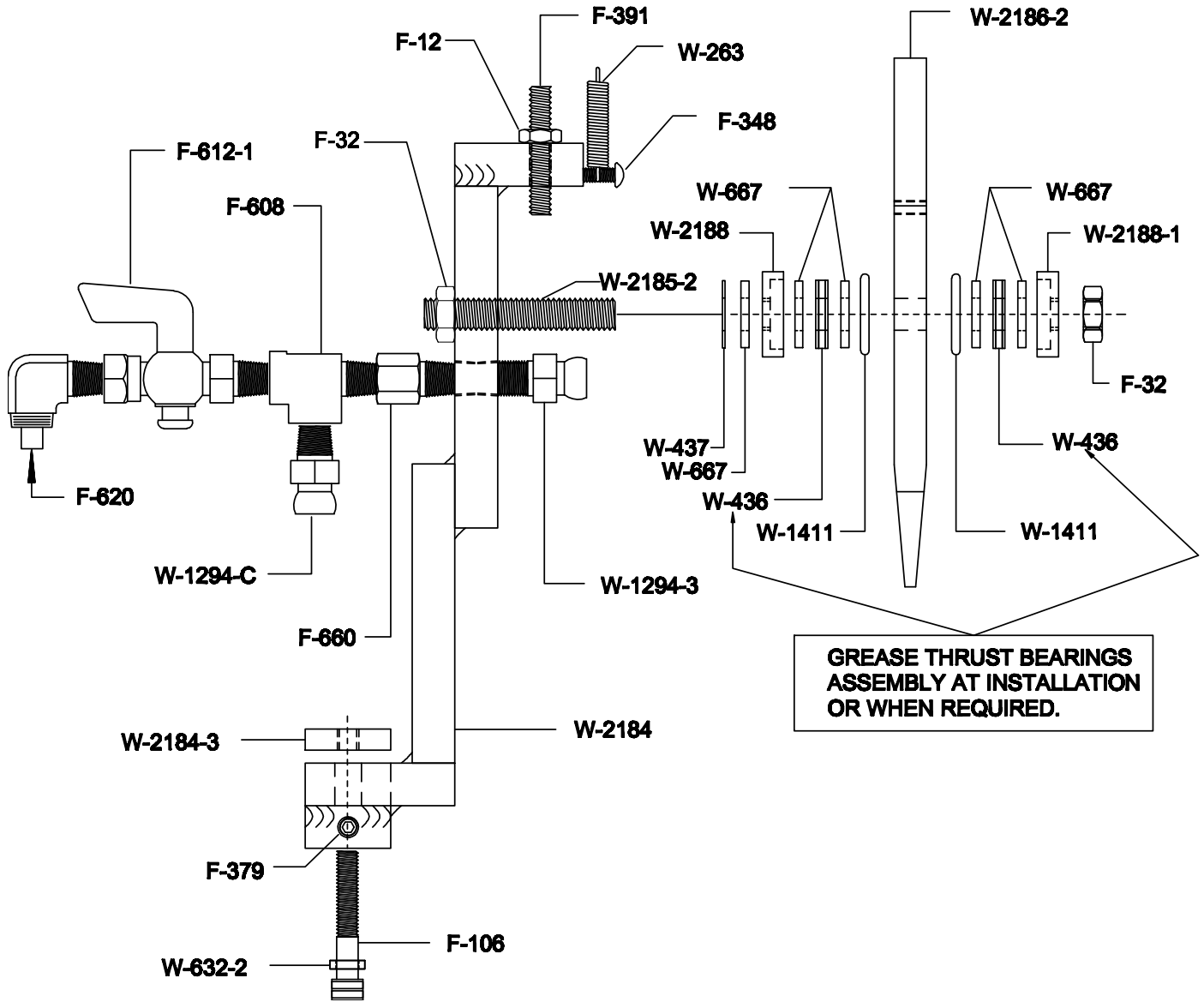
WRIGHT MACHINE TOOL SCALE: NONE DATE: 06-03-03 W-1904-P AIR DIAGRAM		APPROVED BY	DRAWN BY
		DGR	DGR
DRAWING NUMBER		W-1904-P	

SHEET 1 OF 1	
W1904W1904-P AIR	
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W-1904-P QUAD DUAL SIDE GRINDER

FEED FINGER ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

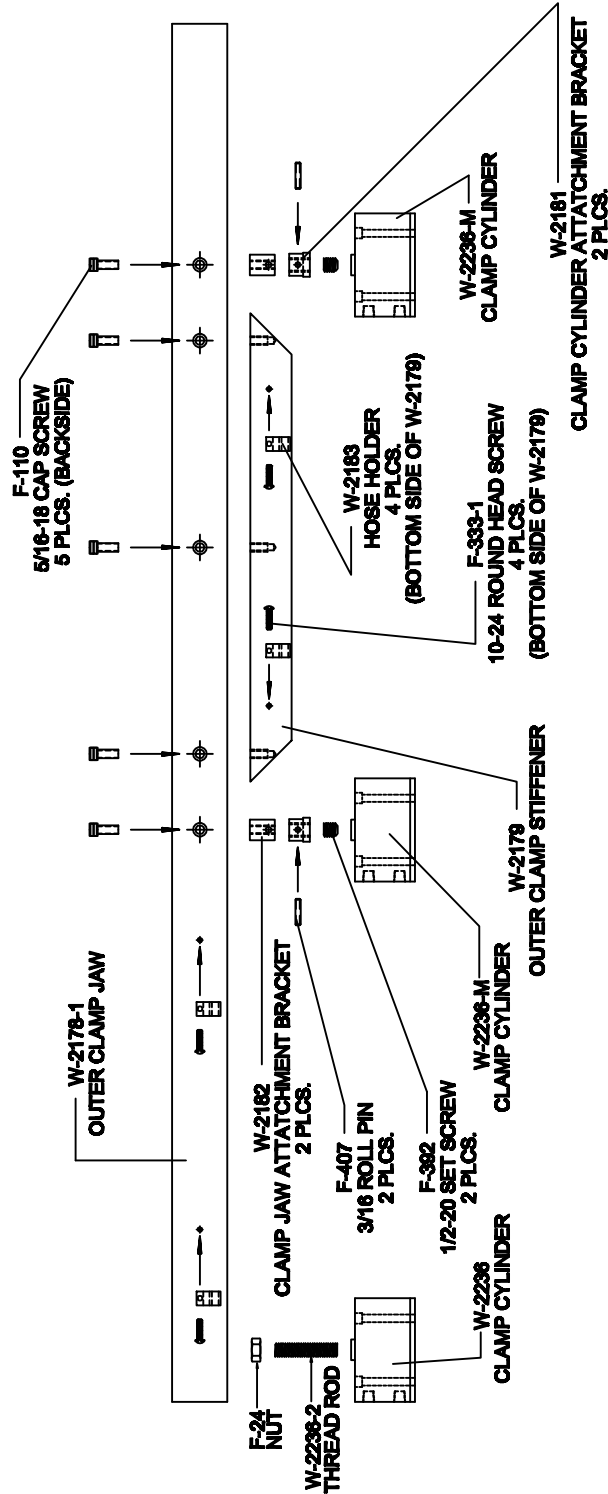
CLAMP ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-24	1/2-20 NUT
5	F-110	5/16-18 CAP SCREW
2	F-392	1/2-20 SET SCREW
4	F-333-1	10-24 ROUND HEAD SCREW
2	F-407	3/16 ROLL PIN
1	W-2178-1	OUTER CLAMP JAW
1	W-2179	OUTER CLAMP STIFFENER
2	W-2181	CLAMP CYLINDER ATTACHMENT BRACKET
2	W-2182	CLAMP JAW ATTACHMENT BRACKET
4	W-2183	HOSE HOLDER
1	W-2236	CLAMP CYLINDER
2	W-2236-M	CLAMP CYLINDER
1	W-2236-2	CYLINDER ADJUSTMENT BOLT



W-1904-P QUAD DUAL SIDE GRINDER

TOP VIEW OF CLAMP ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

INDEX ASSEMBLY

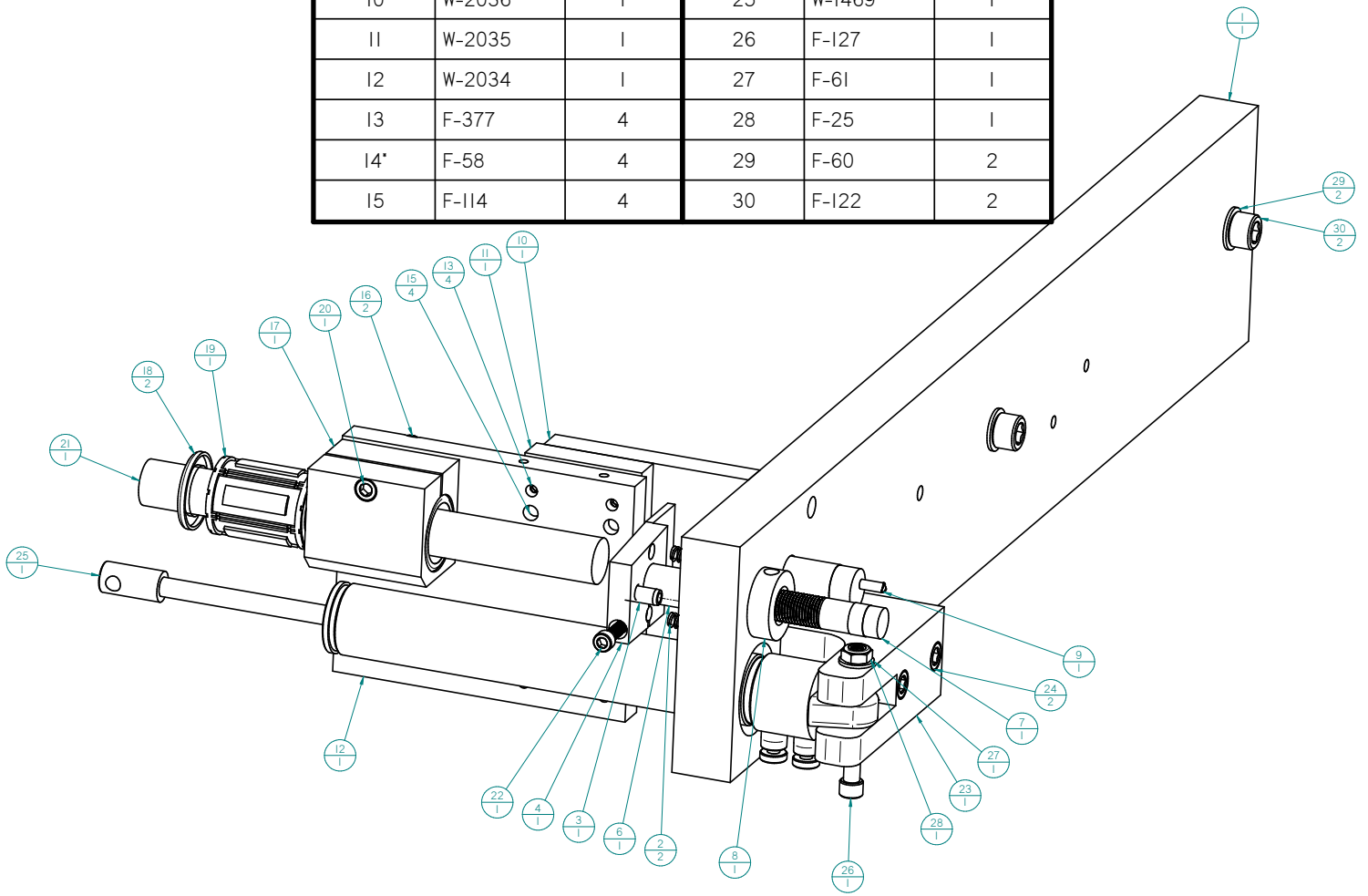
QTY	PART NUMBER	DESCRIPTION
1	F-25	1/4-20 NYLOCK NUT
1	F-31	1/2-13 ACORN NUT
6	F-58	WASHER
1	F-102	1/4-20 CAP SCREW
7	F-114	5/16-18 CAP SCREW
2	F-119	5/16-18 CAP SCREW
1	F-268-M	1/2-13 BOLT (MODIFIED)
2	F-313	1/4-20 FLAT HEAD SCREW
2	F-333	10-24 SCREW
2	F-378	1/4-20 SET SCREW
2	F-380	1/4-20 SET SCREW
1	F-434	1/4 DIA. PIN
2	F-671	AIR FITTING
1	W-284	WASHER
1	W-508	TOMSON SHAFT
1	W-1000-1	NUT
1	W-1402-M	HEAVY DUTY INDEX AIR CYLINDER
1	W-1404	PROXIMITY SWITCH
1	W-1469	ENDINE CYLINDER
1	W-2032	CLEVIS
1	W-2033	CYLINDER LINK
1	W-2034	MOUNT BRACKET (B)
1	W-2035	MOUNT BRACKET (A)
1	W-2036	MOUNT BRACKET (C)
1	W-2450	MOUNT BRACKET
1	W-2451	TARGET CYLINDER



W-1904-P QUAD DUAL SIDE GRINDER

INDEX ASSEMBLY

Item Number	PART #	Quantity	Item Number	PART #	Quantity
1	W-2031	1	16	F-313	2
2	W-382	2	17	C-5053	1
3	F-410	1	18	W-513	2
4	W-2452	1	19	W-514	1
5*	F-378	1	20	F-102	1
6	W-2453	1	21	W-508	1
7	W-2124	1	22	F-140	1
8	W-2454	1	23	W-2032	1
9	W-1404	1	24	F-113-1	2
10	W-2036	1	25	W-1469	1
11	W-2035	1	26	F-127	1
12	W-2034	1	27	F-61	1
13	F-377	4	28	F-25	1
14*	F-58	4	29	F-60	2
15	F-114	4	30	F-122	2



W-1904-P QUAD DUAL SIDE GRINDER

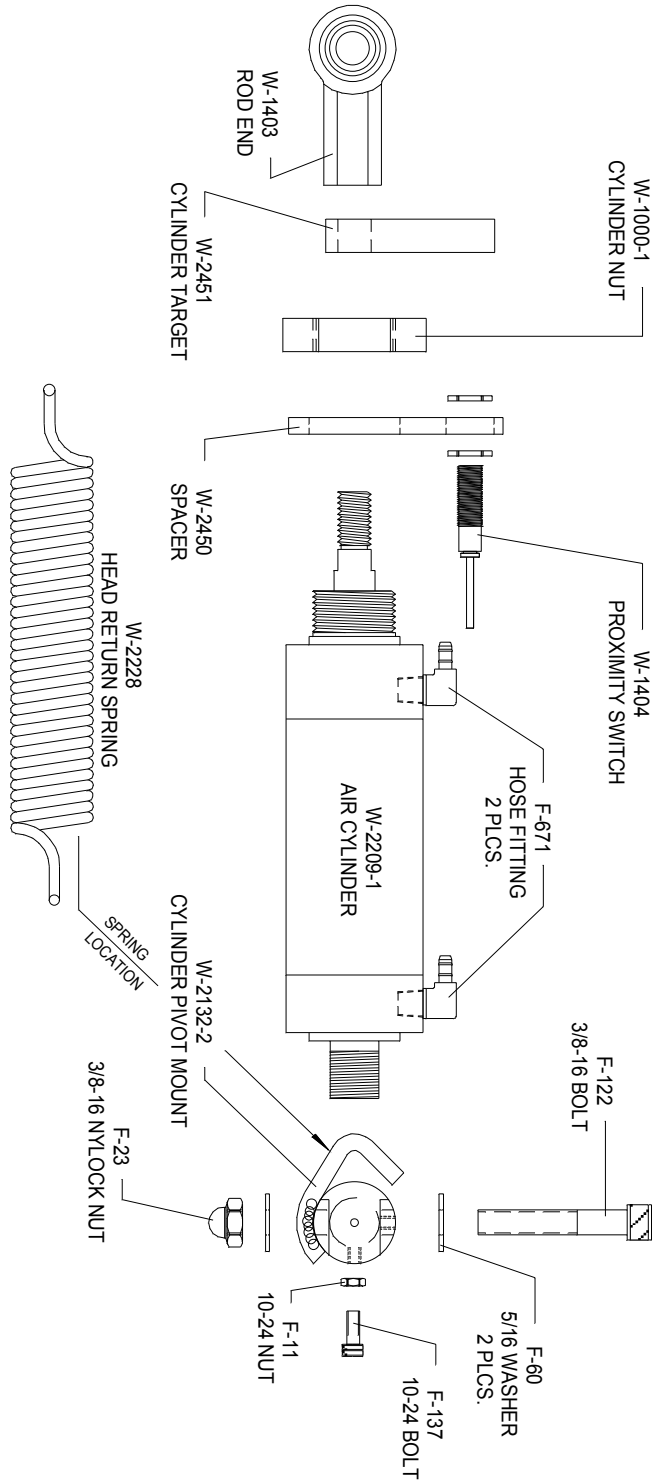
INDEX CYLINDER ASSEMBLY, ROUGHING HEAD

QTY	PART NUMBER	DESCRIPTION
1	F-23	3/8-16 NYLOCK NUT
1	F-11	10-24 NUT
2	F-60	5/16 WASHER
1	F-122	3/8-16 BOLT
1	F-137	10-24 BOLT
2	F-671	HOSE FITTING
1	W-1000-1	CYLINDER NUT
1	W-1403	ROD END
1	W-1404	PROXIMITY SWITCH
1	W-2132-2	CYLINDER PIVOT MOUNT
1	W-2209-1	AIR CYLINDER
1	W-2228	HEAD RETURN SPRING
1	W-2450	SPACER
1	W-2451	CYLINDER TARGET



W-1904-P QUAD DUAL SIDE GRINDER

INDEX CYLINDER ASSEMBLY, ROUGHING HEAD



W-1904-P QUAD DUAL SIDE GRINDER

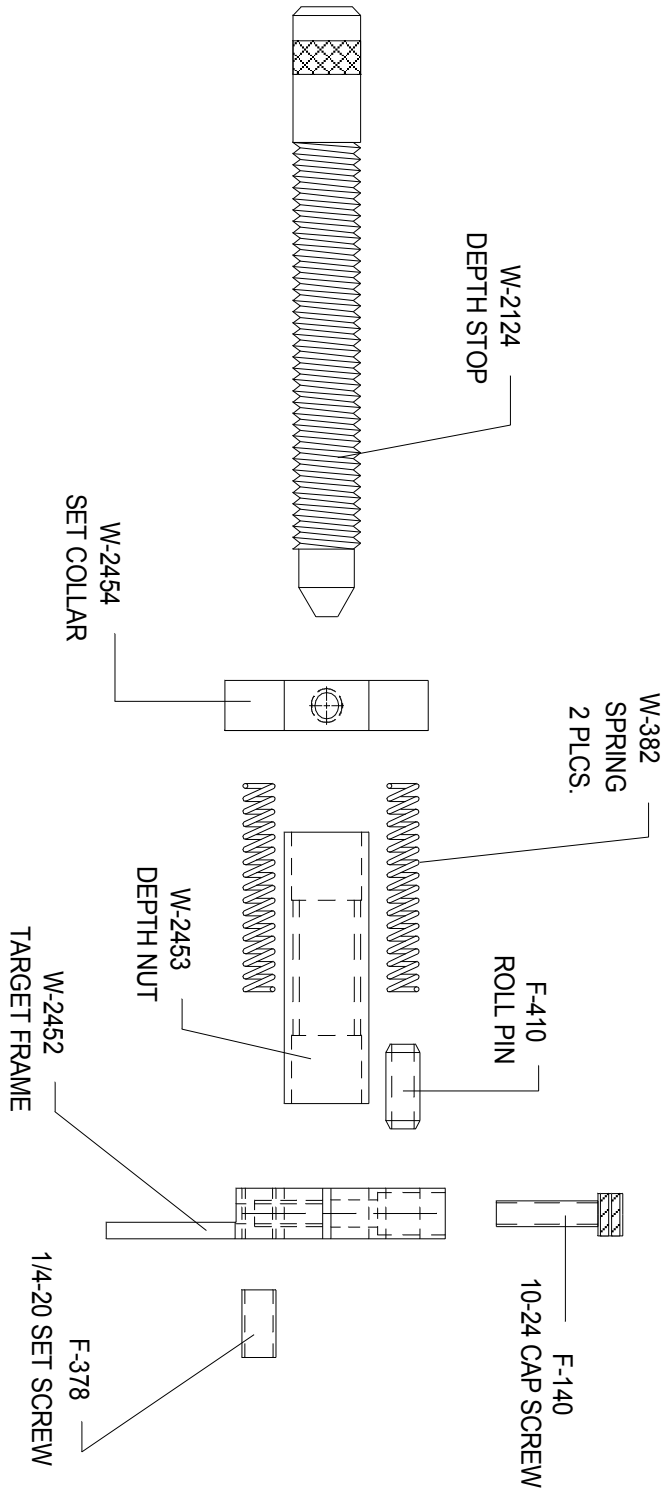
FEED LIMIT ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-140	10-24 CAP SCREW
1	F-378	1/4-20 SET SCREW
2	F-382	SPRING
1	F-410	ROLL PIN
1	W-2124	DEPTH STOP
1	W-2452	TARGET FRAME
1	W-2453	DEPTH NUT
1	W-2454	SET COLLAR



W-1904-P QUAD DUAL SIDE GRINDER

FEED LIMIT ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

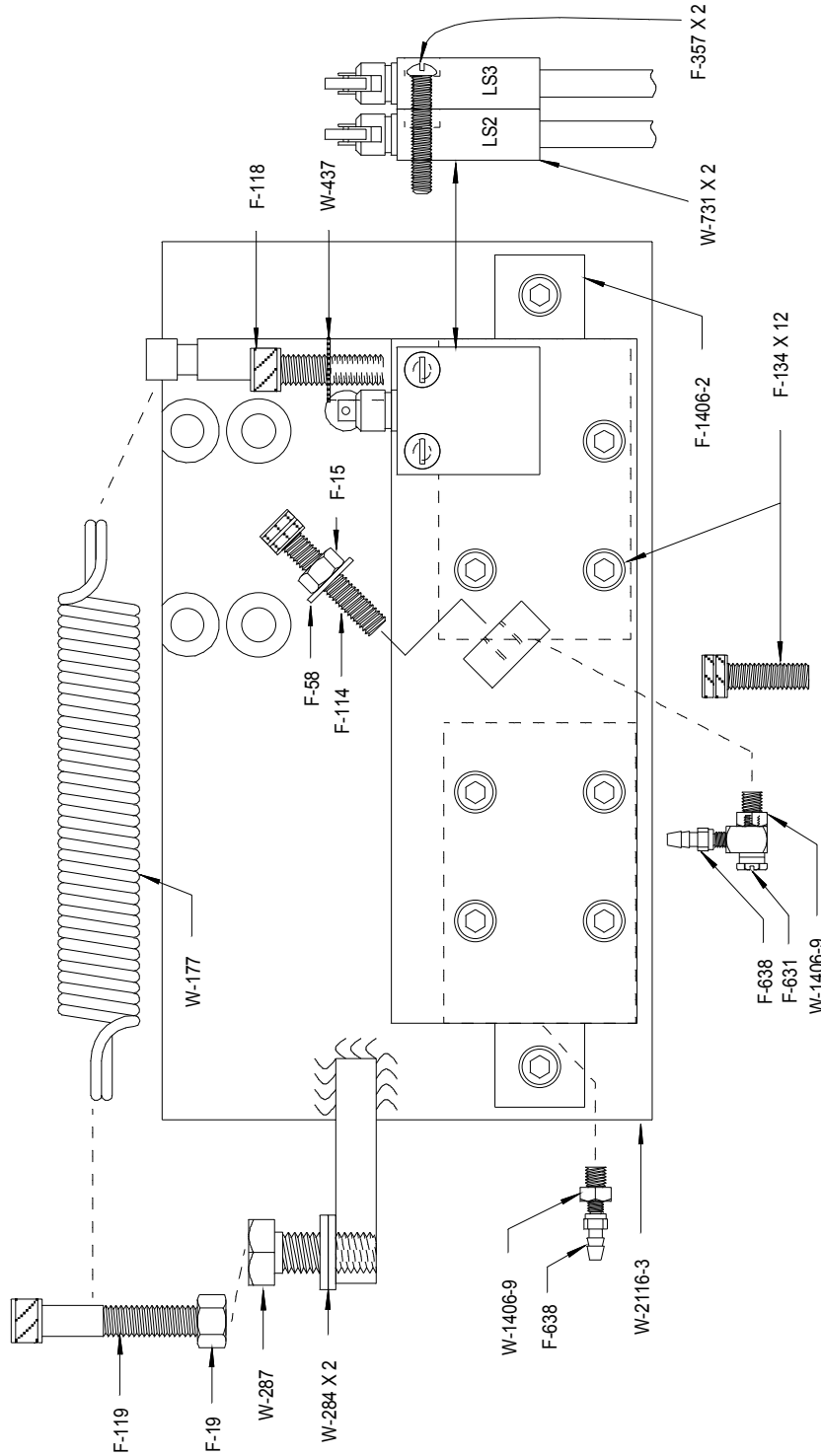
HEAD FEED UP AND DOWN

QTY	PART NUMBER	DESCRIPTION
1	F-15	1/4-20 JAM NUT
1	F-19	3/8-16 NUT
1	F-58	1/4 WASHER
1	F-114	5/16-18 X 1-1/2 SHCS
1	F-118	3/8 - 16 X 1-1/4 SHCS
1	F-119	3/8-16 X 2-1/4 SHCS
12	F-134	8mm X 25mm SHCS
1	F-287	1/2-13 HEX HEAD BOLT
2	F-357	10-24 X 1-1/2 RND HEAD SLOT
1	F-631	FITTING
2	F-638	BARBED FITTING
1	W-177	SPRING
2	W-284	GROUND WASHER
1	W-437	WASHER (BEARING RACE)
2	W-731	MICRO SWITCH
1	W-1406-2	TRUCKS AND RAIL
1	W-1406-9	LUBRICATOR BOLT
1	W-2116-3	TRACK MOUNT



W-1904-P QUAD DUAL SIDE GRINDER

HEAD FEED UP AND DOWN



W-1904-P QUAD DUAL SIDE GRINDER

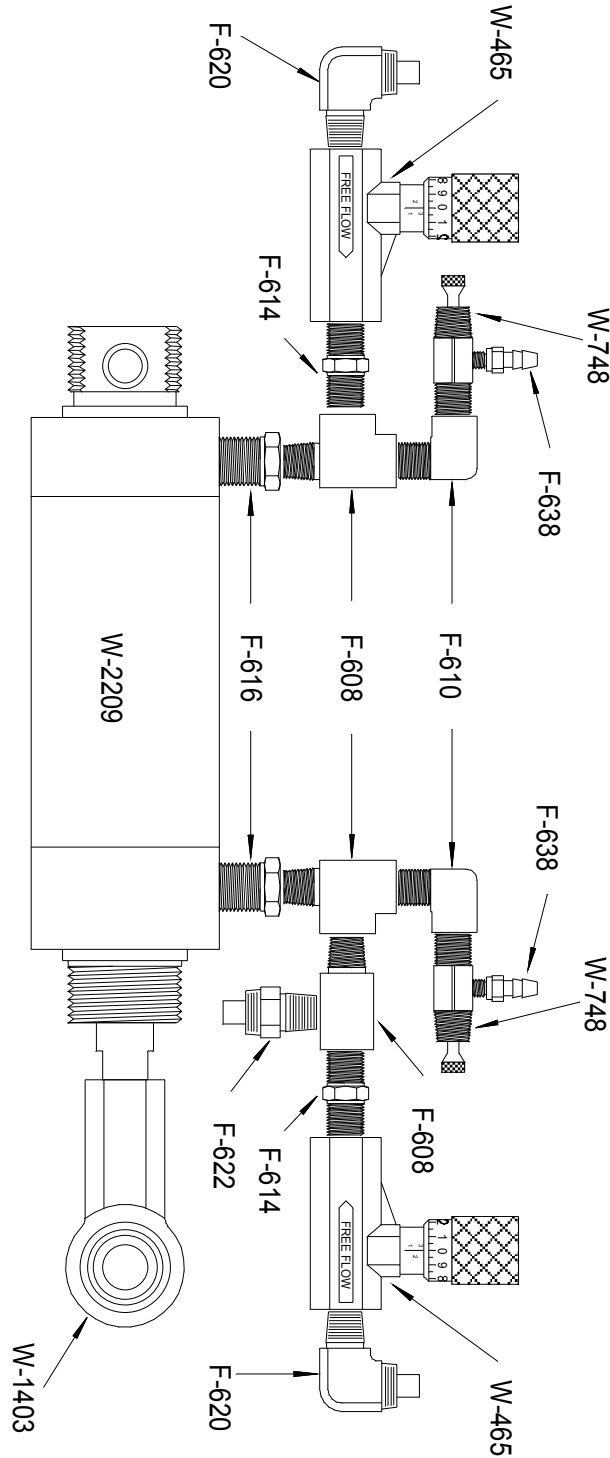
HEAD FEED CYLINDER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
3	F-608	FITTINGS
1	F-610	1/8 NPT FITTING
2	F-614	1/8 NPT HEX NIPPLE
1	F-616	1/8 TO 1/4 BUSHING
2	F-620	ELBOW FITTING
1	F-622	1/8 X 3/8 NPT MALE CONNECTOR
2	F-638	BARBED FITTING
2	W-465	FLOW CONTROL
2	W-748	BLEEDER VALVE
1	W-1403	ROD END
1	W-2209	AIR CYLINDER



W-1904-P QUAD DUAL SIDE GRINDER

HEAD FEED CYLINDER ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

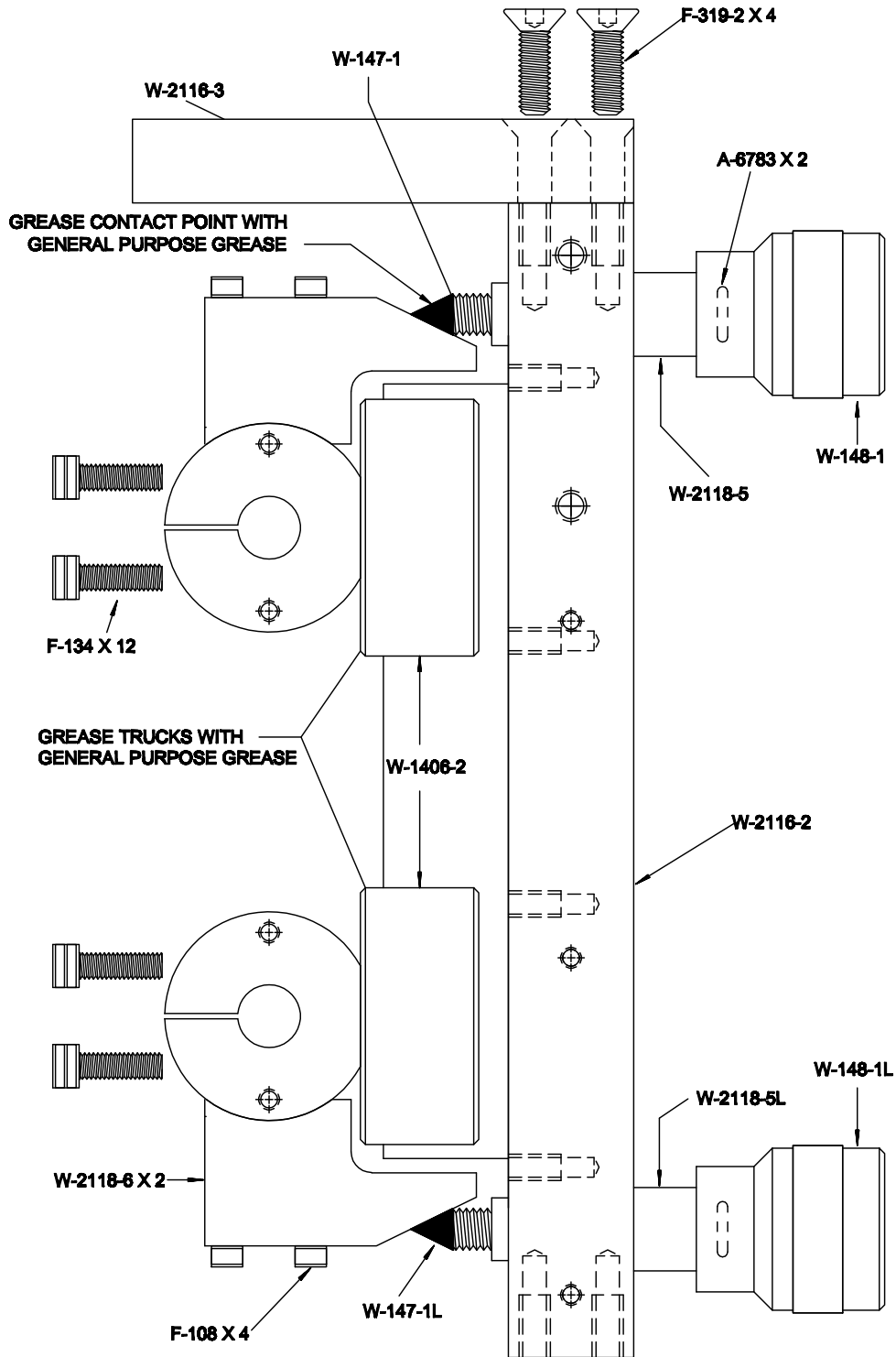
HEAD INFEEED ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
2	A-6783	RUBBER O-RING
4	F-108	1/4-20 X 2 SHCS
12	F-134	8mm X 25mm SHCS
4	F-319-2	3/8-16 X 1 FLAT HEAD
1	W-147-1	LEAD SCREW (R.H)
1	W-147-1L	LEAD SCREW (L.H)
1	W-148-1	HAND FEED KNOB (R.H)
1	W-148-1L	HAND FEED KNOB (L.H)
1	W-1406-2	TRUCKS AND RAIL
1	W-2116-2	TRACK MOUNT
1	W-2116-3	TRACK MOUNT(LEFT END)
1	W-2118-5	STAND OFF KNOB (R.H)
1	W-2118-5L	STAND OFF KNOB (L.H)
2	W-2118-6	LEAD SCREW TARGET



W-1904-P QUAD DUAL SIDE GRINDER

HEAD IN FEED ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

OIL POT INFEED

QTY	PART NUMBER	DESCRIPTION
1	F-22	1/2-13 JAM NUT
1	F-24	1/2-20 JAM NUT
1	F-31	1/2-13 ACORN NUT
1	F-41	1/2-13 HYDRA-LOK NUT
1	F-42	1/2-20 HYDRA-LOK NUT
2	F-608	FITTING
2	F-614	HEX NIPPLE
5	F-617	BUSHING
4	F-622	1/8 NPT X 3/8 NPT CONNECTOR
2	F-634	1/8 NPT PLUG
2	F-638	BARBED FITTING
1	F-663	NIPPLE
2	W-730-1	AIR FITTING
2	W-757	O-RING
2	W-1009	VALVE
1	W-1009-1	SOLENOID
2	W-1158	O-RING
1	W-1171	BOTTOM LARGE END CAP
1	W-1172	TOP END CAP
1	W-2194	STUD
1	W-2195	OIL TUBE
1	W-2196	OIL TUBE
1	W-2486-2	OIL POT BRACKET



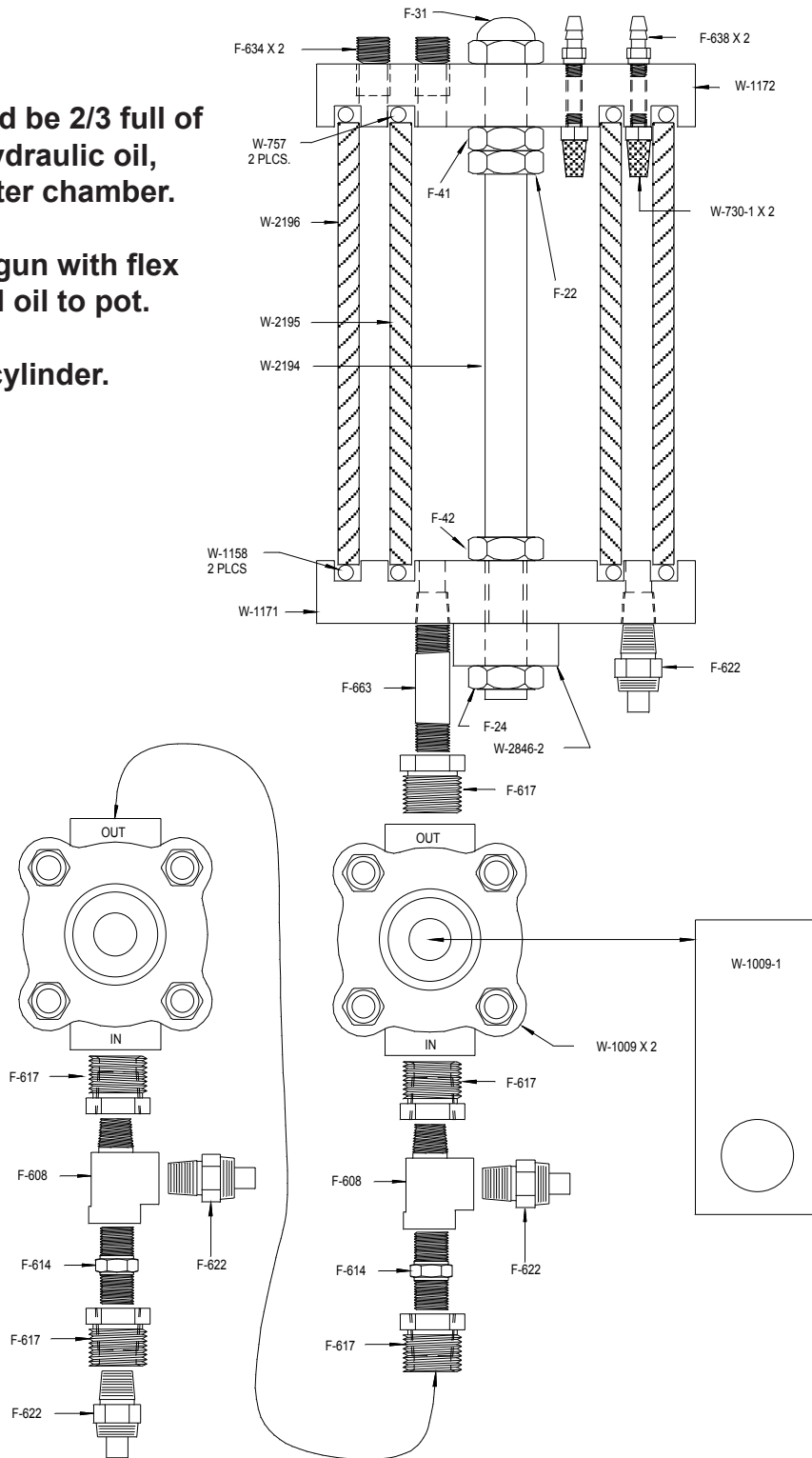
W-1904-P QUAD DUAL SIDE GRINDER

OIL POT INFEED ASSEMBLY

Oil pot should be 2/3 full of AW32 10w hydraulic oil, inner and outer chamber.

Use suction gun with flex tubing to add oil to pot.

Air bleed at cylinder.



W-1904-P QUAD DUAL SIDE GRINDER

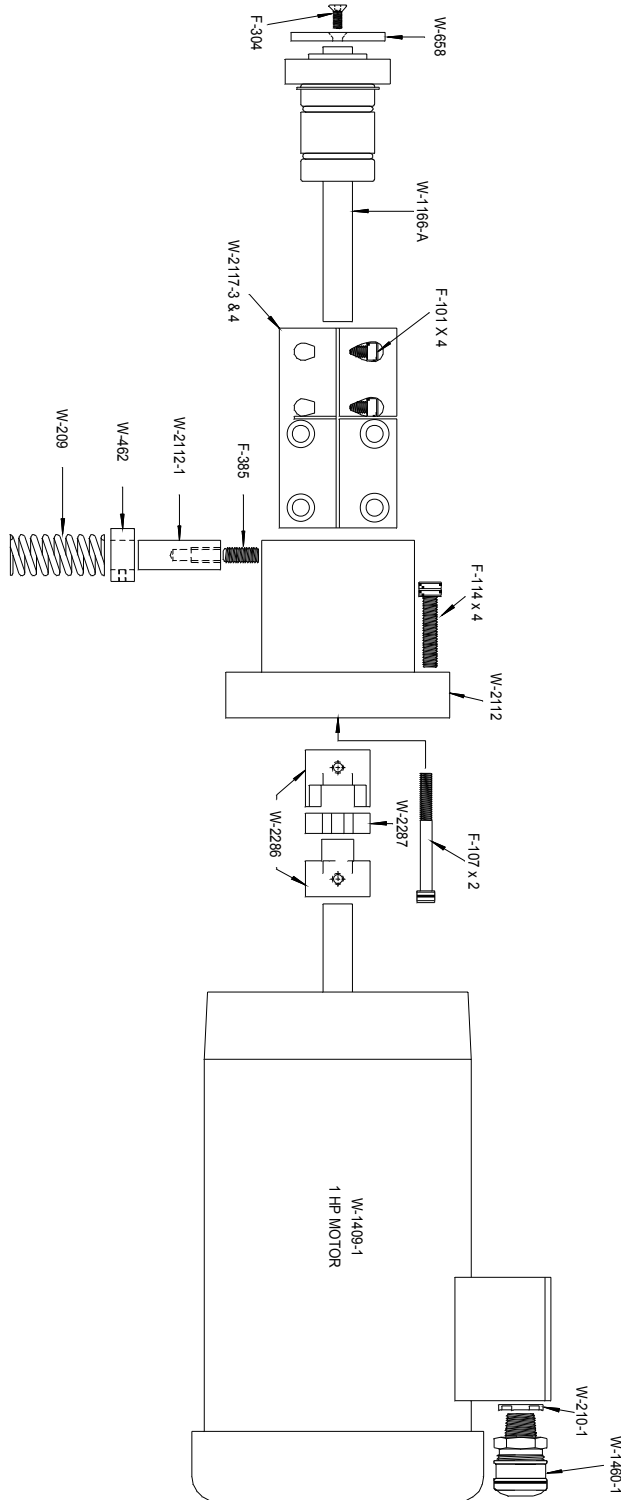
SPINDLE MOTOR ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
8	F-101	1/4-20 X 5/8 SHCS
4	F-107	1/4-20 X 20 SHCS
8	F-114	5/16-18 X 1-1/2 SHCS
2	F-304	10-24 X 1/2 SHCS
2	F-385	5/16-18 X 3/4 SET SCREW
2	W-209	INFEEED SPRING
2	W-210-1	LOCK NUT FOR W-1460-1
2	W-462	5/8 COLLAR
2	W-658	WHEEL NUT
2	W-1166-A	SPINDLE ASSEMBLY
2	W-1409-1	1 HP MOTOR
2	W-1460-1	CORD GRIP
2	W-2286	COUPLING
2	W-2287	SPIDER GEAR
2	W-2112	MOTOR ADAPTER
2	W-2112-1	SPRING POLE
2	W-2117-3	SPINDLE HOUSING
2	W-2117-4	SPINDLE HOUSING



W-1904-P QUAD DUAL SIDE GRINDER

SPINDLE MOTOR ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

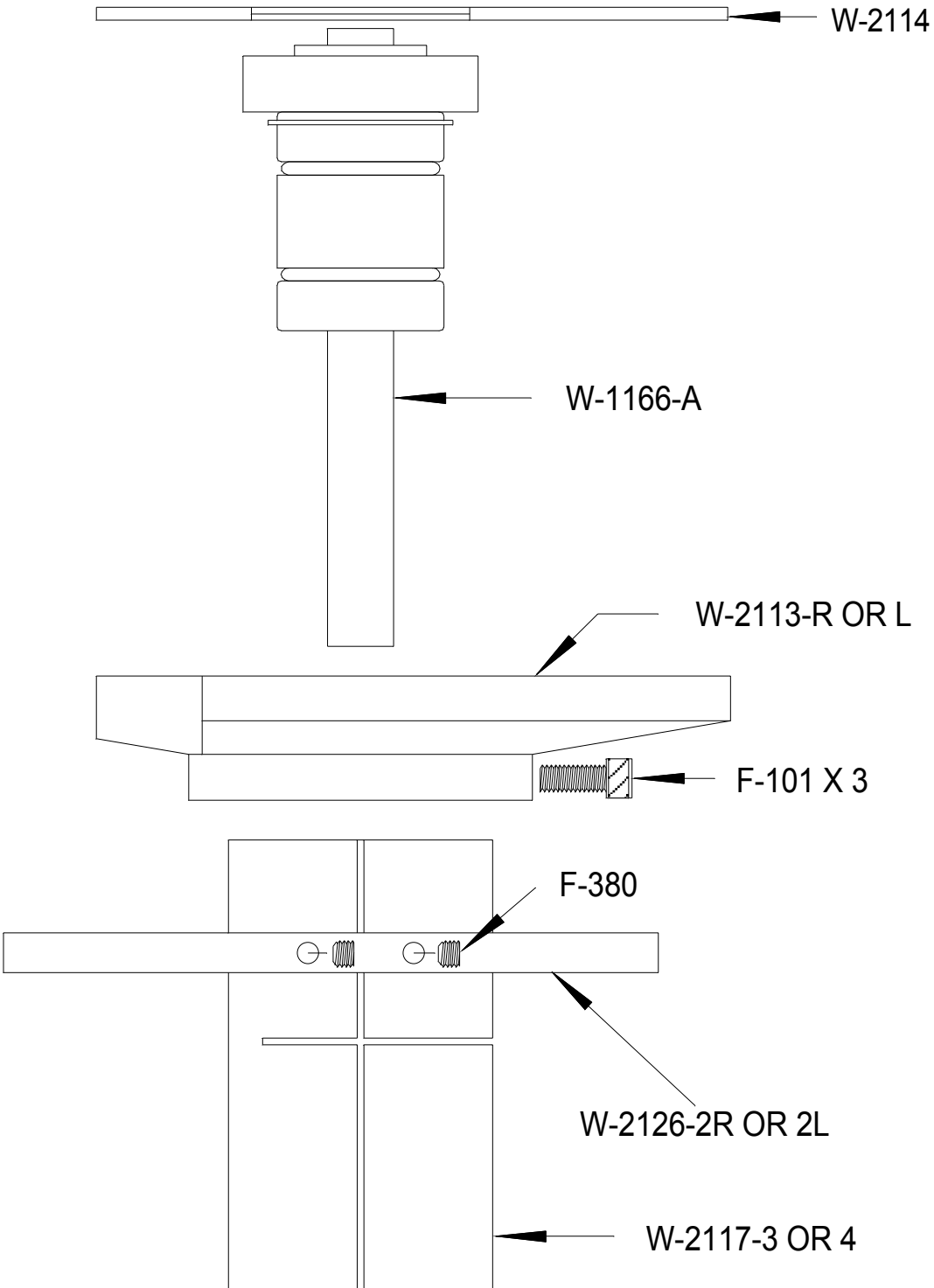
SPINDLE GUARD HOUSING

QTY	PART NUMBER	DESCRIPTION
6	F-101	1/4-20 X 5/8 SHCS
4	F-380	1/4-20 X 1/4 SET SCREW
2	W-1166-A	SPINDLE ASSEMBLY
1	W-2113-R	RIGHT WHEEL GUARD
1	W-2113-L	LEFT WHEEL GUARD
2	W-2114	SIDE WHEEL COVER
1	W-2117-3	RIGHT SPINDLE HOUSING
1	W-2117-4	LEFT SPINDLE HOUSING
1	W-2126-2R	RIGHT SPINDLE SHIELD
1	W-2126-2L	LEFT SPINDLE SHIELD



W-1904-P QUAD DUAL SIDE GRINDER

SPINDLE GUARD HOUSING



W-1904-P QUAD DUAL SIDE GRINDER

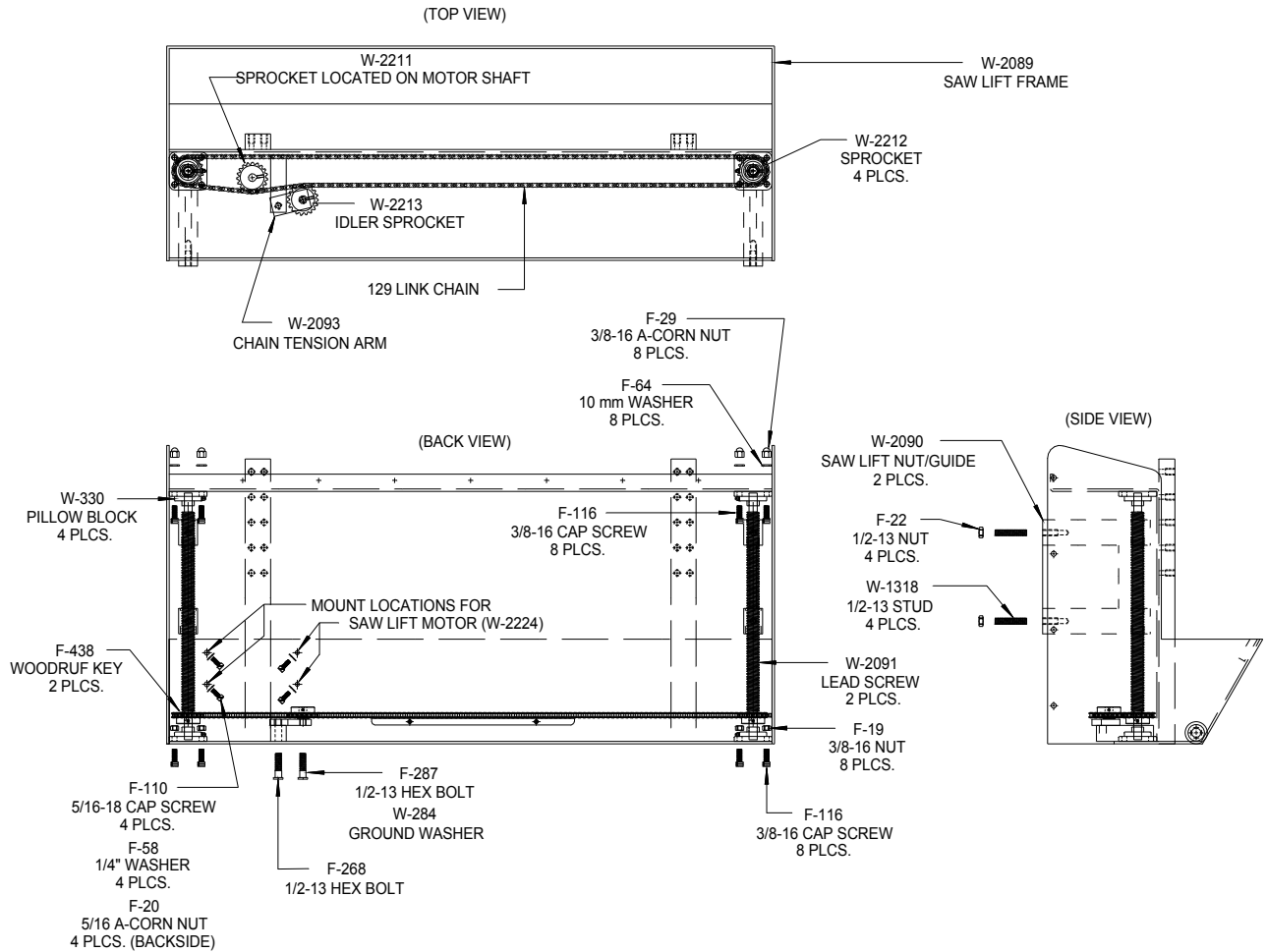
SAW LIFT ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
8	F-19	3/8-16 NUT
4	F-20	5/16-18 A-CORN NUT
4	F-22	1/2-13 NUT
8	F-29	3/8-16 A-CORN NUT
4	F-58	1/4" WASHER
4	F-110	5/16-18 CAP SCREW
16	F-116	3/8-16 CAP SCREW
1	F-268	1/2-13 HEX BOLT
1	F-287	1/2-13 HEX BOLT
8	F-64	10mm WASHER
2	F-438	WOODRUF KEY
4	W-284	GROUND WASHER
4	W-330	5/8 BORE PILLOW BLOCK
4	W-1318	1/2-13 STUD
1	W-2089	SAW LIFT FRAME
2	W-2090	SAW LIFT NUT/GUIDE
2	W-2091	LEAD SCREW
1	W-2093	CHAIN TENSION ARM
1	W-2211	DRIVE SPROCKET
4	W-2212	SPROCKET
1	W-2213	IDELER SPROCKET
1	W-2224	SAW LIFT DRIVE MOTOR



W-1904-P QUAD DUAL SIDE GRINDER

SAW LIFT ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

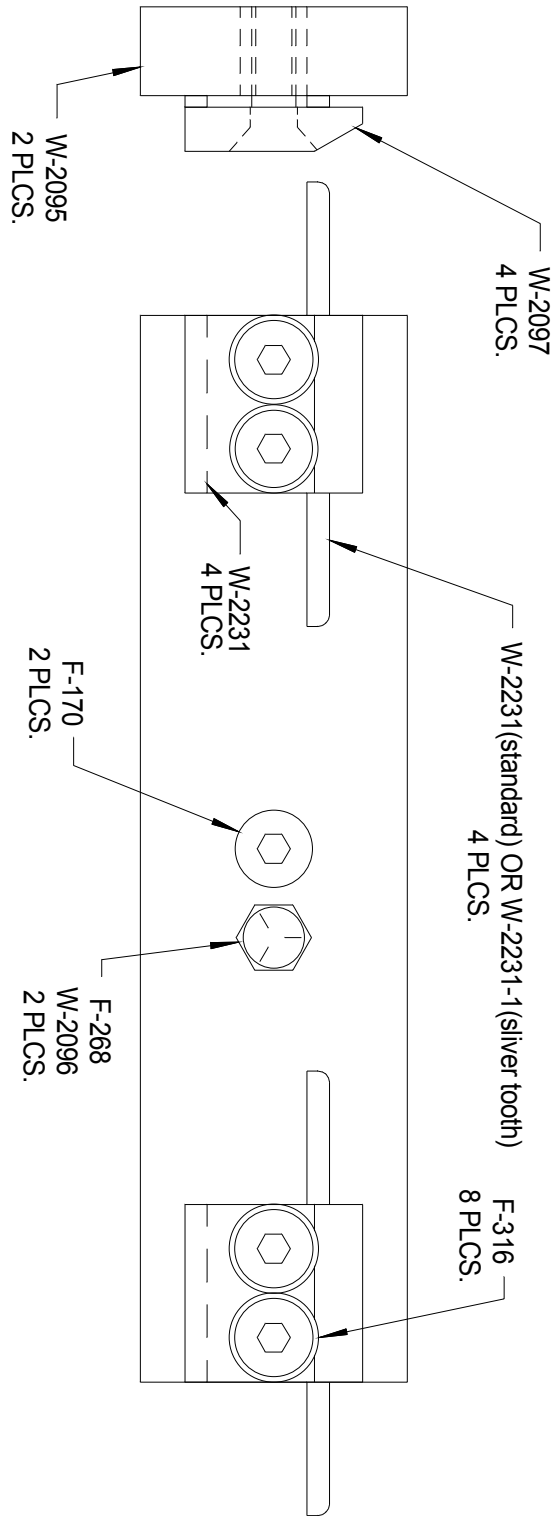
SAW CARRIER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
2	F-170	5/8 X 1-1/4 SHOULDER BOLT
2	F-268	1/2-13 HEX HEAD BOLT
8	F-316	1/2-13 FLAT HEAD BOLT
2	W-2095	SAW ATTACH ROCKER
2	W-2096	ROCKER BUSHING
4	W-2097	FRONT SAW GUIDE
4	W-2231	1/8 X 1/4 X 2 CARBIDE BLANK



W-1904-P QUAD DUAL SIDE GRINDER

SAW CARRIER ASSEMBLY



W-1904-P QUAD DUAL SIDE GRINDER

INDEX

A

AIR REQUIREMENTS 4

C

COMMON REPLACEMENT PARTS 5

Control Joy Switch 9

CONTROL PANEL 8, 9

CONVERSION CHART 17

COOLANT 6

CRATE SIZE 4

E

ear protection 3

ELECTRICAL SCHEMATIC 18, 19, 20, 23

eye protection 3

G

GENERAL SAFETY RULES 3

GRINDING WHEELS 6

L

LIMITED WARRANTY 2

LOADING SAW 13, 14

Load Meter 9

M

MACHINE CONTROLS 12

MAINTENANCE 7

N

Narrow Band Saw Carrier 5

O

Open position 9

OPTIONAL SAW SIZE 4

OPTIONAL VOLTAGE 4

OPTIONS 5



W-1904-P QUAD DUAL SIDE GRINDER

INDEX

P

PARTS LIST 25
PRE SET UP 6

R

RADIAL 15
RADIAL ANGLE 15, 16, 17
Run position 9
rust damage 6

S

SAFETY RULES 3
Saw Up / Saw Down 9
SETTING INDEX PITCH 12
SHIPPING WEIGHT 4
Sliver Tooth 5
SPECIFICATIONS 4
SPINDLE MOTORS 4
STANDARD SAW SIZE 4
STANDARD VOLTAGE 4
Stands 5

T

TANGENTIAL 15
TANGENTIAL ANGLE 15, 16, 17
Tooth Counter 9
TOOTH GEOMETRY 15, 16
Totalizer Counter 5

