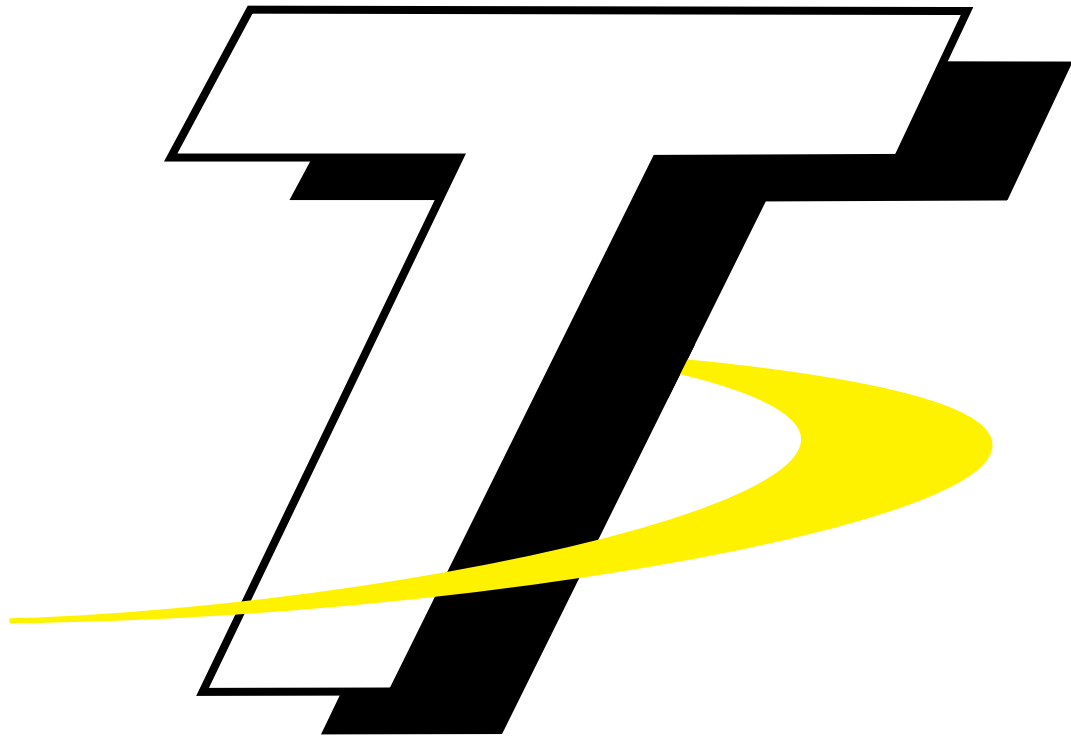


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Here at Trick Tools we believe that our customers deserve the best value in their tool and equipment purchases. We are constantly at work searching out a variety of high quality, high performance tools to offer at the best prices possible. Our commitment to you is that we will not offer “cheap junk” anywhere on our website. You, the customer, help us to evaluate our products constantly and as soon as an ongoing quality issue is uncovered we will correct it or discontinue that product immediately. We hope to earn your continued trust.

NATIONAL

SAFETY & INSTRUCTION MANUAL

FOOT SHEAR N5216

MADE IN USA

PO BOX 72
SMARTT, TN. 37378
PH 1-931-668-3643
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RECORD MACHINE INFORMATION HERE

(Necessary for factory Service, Replacement Parts, etc.)

Model Number: _____

Serial Number: _____

Date Installed: _____

Purchased Through: _____

SAFETY

WARNING !! DO NOT Operate this machine **WITHOUT** manufactures Holddown Assembly or an APPROVED Finger Guard Installed...

WARNING !! DO NOT place hands or fingers under Holddown Assembly or NEAR blade area...

NEVER place any part of your body under the blade area...

NEVER allow anyone to support material being cut from the rear position of the machine...

DO NOT stack material to be cut, design is for SINGLE layer only...

Keep floors dry and free of clutter, maintain good footing, and do not "OVERREACH" ...

DO NOT use machine as a work table, material may slip into cutting path and cause serious damage and injury

ALWAYS operate this machine from the **FRONT** Area ONLY...

DANAGER !!! Always wear "SKID PROOF" shoes and KEEP the "FOOT TREADLE" CLEAN AND DRY when operating the foot stomp mechanism on Model N5216, SERIOUS Injury may result from slipping/recoil etc...

DO NOT balance with cutterhead while cutting on Model N5216...Use Extension Arms provided as body support...

Keep FEET etc. clear of "**FOOT STOMP**" while in operation (N5216)...

Always lay material FLAT on table, do not support material as "**CLAMPING**" may result in serious injury...

Always keep children, pets, and visitors at a SAFE distance from this machine when operating...

SAFETY (Continued)

Feed material from the **FRONT** only...

Never **FORCE** the machine to cut, check Adjustment procedures and Design Standards if problems arise...

Wear clothing that will **NOT** become caught on material. **NEVER** wear neckties, long jewelry around the neck or on an arm, loose garments, or accessories of any type that may become caught in the mechanisms of this machine...

Check machine before EVERY use for Damage or Loose Material between blades...

Follow Preventative Maintenance Guide **DAILY**...

Always Wear Safety Glasses or an approved eye protection device when operating this machine...

Keep Fingers CLEAR of the Blade Area and the Holddown Assembly...

SAFETY SAVES AND SAFETY PAYS

DESIGN STANDARDS

This machine is designed and manufactured to **SAFETY** cut “**MILD STEEL**” by **GAUGE** and **TOLERANCES** outlined below.

DO NOT cut materials that are not within the specified tolerances of this machine... **SERIOUS DAMAGE and / or INJURY MAY OCCUR.....**

Carbon Composition	Thickness Tolerance	Tensile Strength	Yield Strength	Rockwell (Hardness)
GAUGE (Max. o/o) 16 ga. 20 - 25	.053 - .067	(Ksi) 50	(Ksi) 30	(Ksi) B65

**** Maximum tolerance are “Built Into” above stated figures ****

Thickness of material must be **ADJUSTED** accordingly to compensate for **HIGHER** Tensile and / or **HIGHER** Rockwell.

Aluminums, Stainless, Galvanized, and ALL alloys **MUST** fall within the above standards to accomplish a **SAFE** and **SATISFACTORY CUT....**

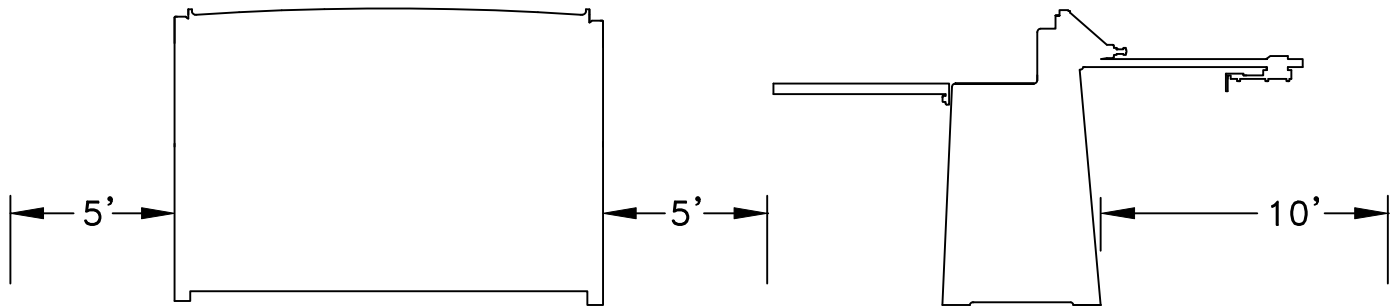
**DO NOT CUT MATERIALS NOT
DESIGNED FOR THIS
MACHINE...EXTREME AND / OR COSTLY
CAMAGE AND / OR SERIOUS INJURY
MAY OCCUR...**

******* NOTICE *******

**This Machine has been factory tested to CAPACITY of MILD STEEL
DO NOT EXCEED MAXIMUM RATED CAPACITIES
AS SHOWN ABOVE**

SAFE ZONE

(Working Zone)



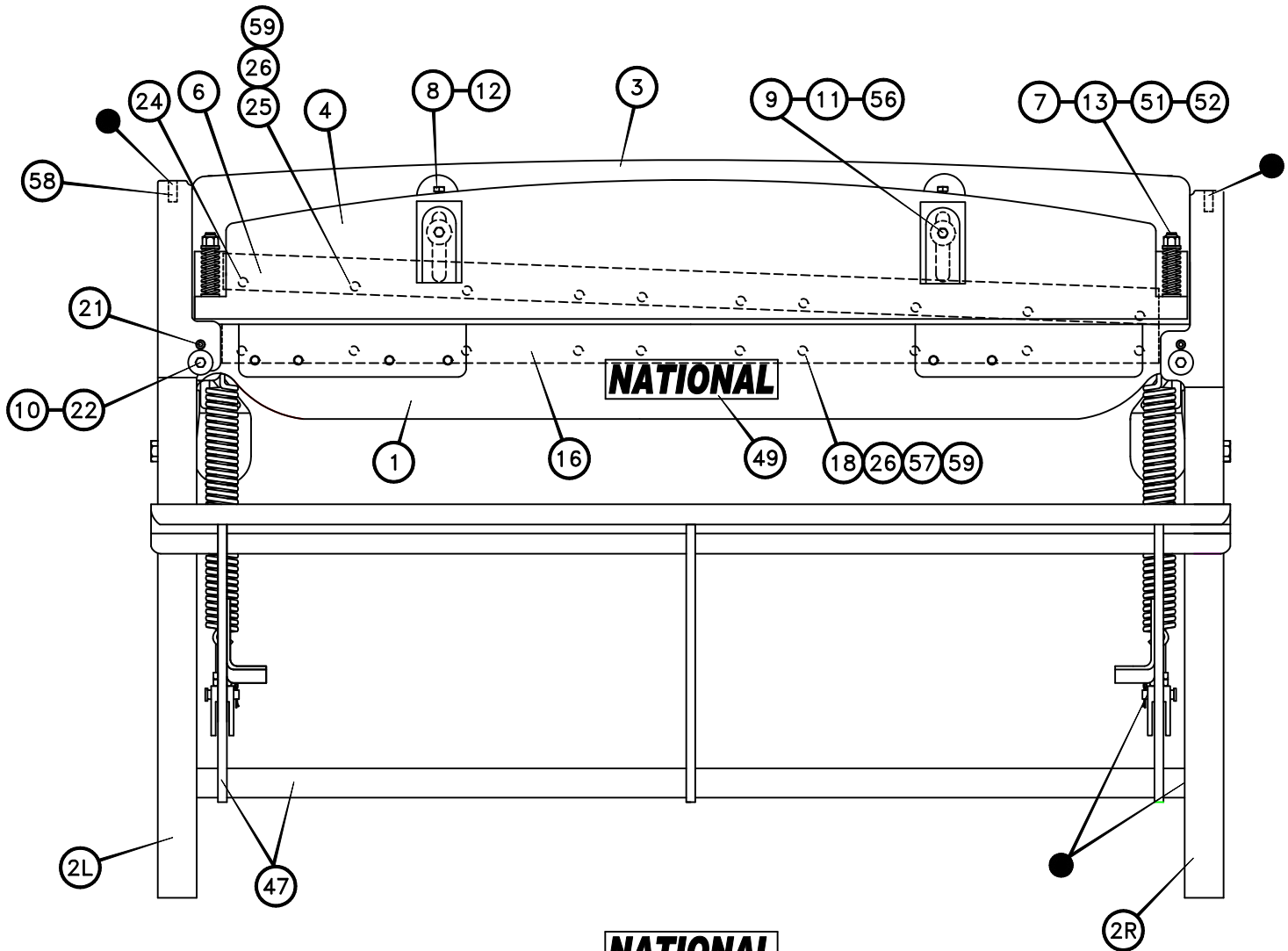
1. Allow a minimum five (5) feet of open area, free of materials, and machinery on BOTH sides (left & right) of machine.
2. Allow a minimum ten (10) feet of open area, free of obstructions, etc. in REAR OF Machine.
3. Do NOT operate machine when People or Obstructions are within SAFE ZONE. Serious injury may occur.
4. Do NOT stack, store or place material, machinery, or any other obstructions in FRONT of machine that might cause tripping or in any way present a HAZARD to operators and / or helpers.

KEEP WORK AREA AND SAFE ZONES CLEAN

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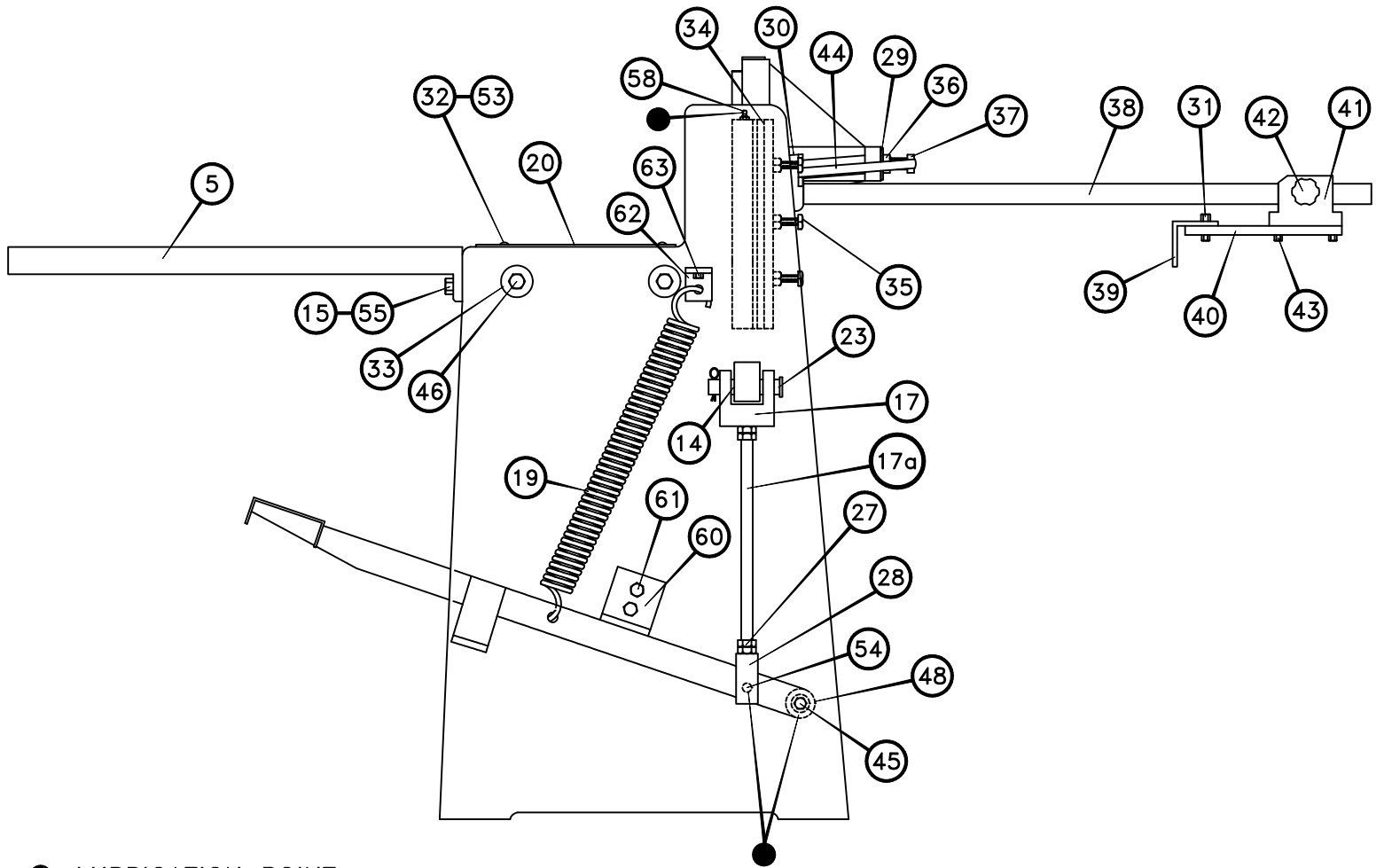
PARTS LIST N5216 FOOT SHEAR

PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1.	TABLE _____	1	32.	BOLT _____	4
2.	R OR L SIDE PANEL _____	2	33.	WASHER _____	8
3.	CUTTERHEAD _____	1	34.	GIB _____	2
4.	HOLDDOWN _____	1	35.	GIB NUT & BOLT _____	6
5.	FRONT ARM EXTENSION _____	2	36.	CROSSHEAD ADJ. NUT _____	1
6.	UPPER BLADE _____	1	37.	CROSSHEAD ADJ. BOLT _____	1
7.	STUD _____	2	38.	BACK GAUGE ROD _____	2
8.	NUT _____	2	39.	BACK GAUGE ANGLE _____	1
9.	BOLT _____	2	40.	R OR L CONNECTING LINK _____	2
10.	WASHER _____	2	41.	BACK GAUGE BLOCK _____	2
11.	WASHER _____	4	42.	LOCK KNOB _____	2
12.	BOLT _____	2	43.	BOLT _____	6
13.	NUT _____	2	44.	CROSSHEAD ADJ. ROD _____	1
14.	BEARING _____	2	45.	TREADLE HINGE PIN _____	2
15.	BOLT _____	4	46.	BOLT & NUT _____	4
16.	LOWER BLADE _____	1	47.	TREADLE ASSEMBLY _____	1
17.	TOP PULL ROD CLEVIS _____	2	48.	BEARING _____	2
17a.	PULL ROD _____	2	49.	NATIONAL NAME PLATE _____	1
18.	BOLT _____	10	50.	DELETED _____	-
19.	SPRING _____	2	51.	WASHER _____	2
20.	SCALE _____	2	52.	SPRING _____	2
21.	SET SCREW _____	2	53.	WASHER _____	4
22.	BOLT _____	2	54.	PIN & KEY _____	2
23.	PIN & KEY _____	2	55.	WASHER _____	4
24.	BOLT DELETED _____	10	56.	COVER _____	2
25.	BOLT _____	10	57.	WASHER _____	20
26.	LOCK WASHER _____	20	58.	GREASE FITTING _____	2
27.	LOCK NUTS _____	4	59.	NUT DELETED _____	20
28.	BOTTOM CLEVIS _____	2	60.	UPPER PEDAL STOP _____	2
29.	WASHER _____	1	61.	BOLT & WASHER _____	2
30.	SET SCREW _____	2	62.	SPRING HOOK _____	2
31.	NUT _____	2	63.	BOLT & WASHER _____	2



● -LUBRICATION POINT

PARTS LIST N5216 FOOT SHEAR

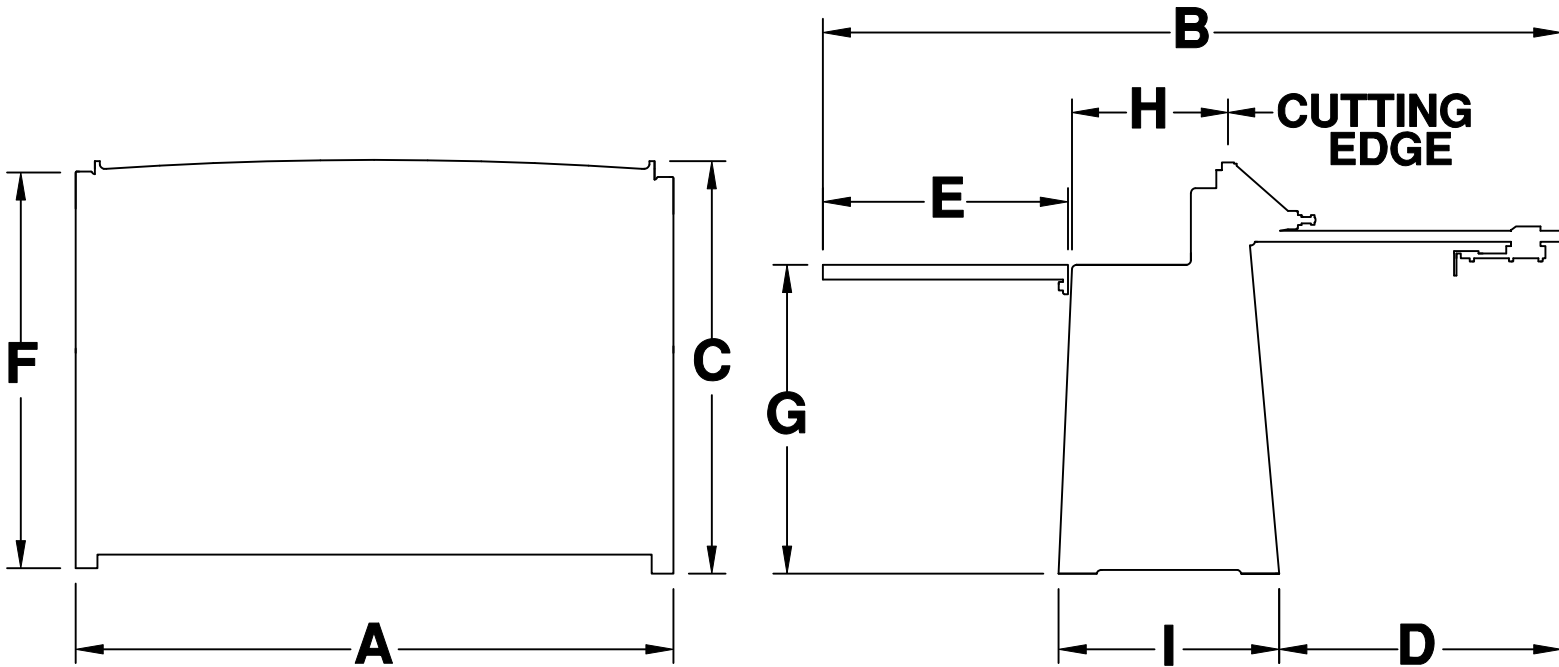


●—LUBRICATION POINT

NATIONAL

PARTS LIST N5216 FOOT SHEAR

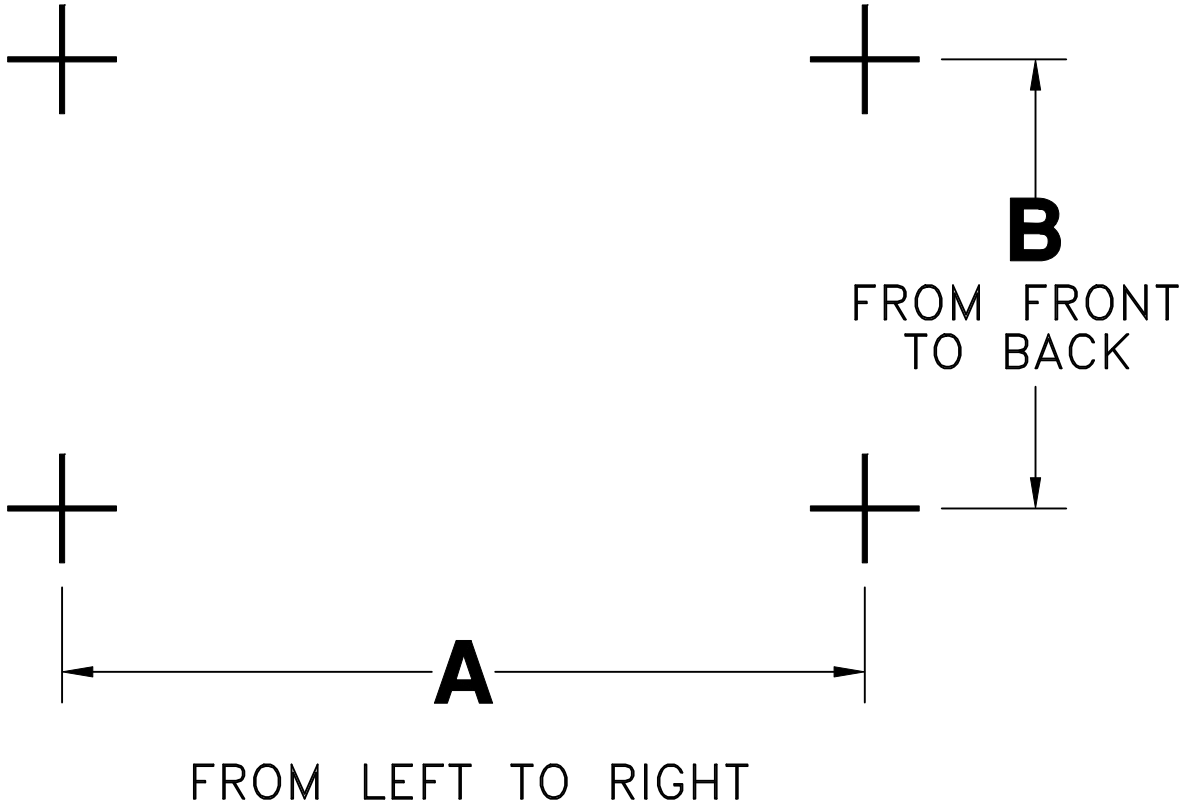
MACHINE DIMENSIONS



SHEAR	A	B	C	D	E	F	G	H	I	CUTTING EDGE	APPROX. SHIPPING WEIGHT
N5216	61"	75 7/8"	42 1/4"	29 1/4"	25"	39"	31 3/8"	14"	22 3/4"	52 1/4"	980 lbs.

● With optional SQUARING ARM add approx. 18 1/2" to E & B for 36" and 52" shears

ANCHOR POINTS



Shear	A	B
N5216	56-3/4"	19-3/4"

>>>CAUTION<<<

Do NOT overtighten Legs to floor
Shim FLOOR TO MACHINE for Level Fit

NATIONAL

SET – UP INSTRUCTIONS

1. Prepare location for machine (See Safe Zone Diagram pg. 4, Machine dimensions Chart pg. 13, and Anchor Points pg 14 for proper positioning.
2. Install Anchors into floor at desired location.
3. Remove and properly dispose of all cardboard and metal wrap, inspect machine for damages and accountability of accessories.
4. Unbolt Legs 2L – 2R from skid. Check for Damages.
5. Carefully insert Fork Lift Tines or Sling Straps underneath TABLE (#1). Slowly lift and carefully position machine over Anchors.
6. ****IMPORTANT**** Shim **FLOOR TO MACHINE** for Level Fit. Do **NOT** Draw machine Legs 2L or 2R down to floor as “BINDING may result.
7. Tighten Anchor Bolts **FIRMLY**. **DO NOT OVERTIGHTEN.**
8. Check for excessive movement. Adjust as necessary for snug fit.
9. Test run machine to determine if adjustments etc, are necessary. (See Adjusting Procedures, pg 17).
10. Read and Understand **ALL** Safety Notices attached to machine and Enclosed.
11. Model **N5216**: Wipe any spills or oil from “**FOOT STOMP**”
INSURE RIGID GRIP.

ADJUSTING PROCEDURES

GIB SLIDES

1. Loosen Lock Nuts on all Square head Gib Bolts (#35) on BOTH Legs (2L-2R).
2. Tighten two (2) bolts randomly on each leg (2L – 2R) (DO NOT OVERTIGHTEN.)
3. “BUMP” tighten the remaining bolts to just beyond Finger Tight.
4. Loosen two (2) bolts previously tightened (2L – 2R) above and repeat “BUMP” Tighten procedure on all bolts. Insure that **ALL** bolts feel equal in pressure to allow a smooth travel of the Cutterhead (#3)
5. Exercise Machine listening for any indication of excessive movement and / or “DRYING” of slide areas.
6. Tighten Lock Nuts on Square Head Gib Bolts (#35) on both Legs (2l – 2R).

CUTTERHEAD / BLADE ANGLE

1. Visually check to insure that UPPER Blade (#6) passes LOWER Blade (#16) sufficiently to accomplish FULL table Width Cut.

If #2 above is satisfactory, no further Cutterhead (#3) Adjustments are Necessary... Correction procedures follow if Full Width Cut or Cutterhead (#3) Clearance is not adequate.

2. Loosen Lock Nuts on Pull Rod Assemblies #27.
3. Adjust “LOW ENDS” (Right Side Facing) Blade (#6 & #16) clearance to the Prescribed Height: **52” ... 1/4**

CUTTERHEAD / BLADE ANGLE (Continued)

4. Raise or Lower “**HIGH END**” until there is a **MINIMUM .003”** clearance between Cutterhead (#3) and Leg (#2) at Gib Slide area on either side of machine as viewed from the rear. (Adjustments are Made by turning the Pull Rod (#18 or #17) **CW** or **CCW** as necessary.)
5. Test run machine, checking for smooth operation / travel and no apparent “**DRYING**” of slide areas or Gibs (#34). Insure that **TOTAL** Width cutting capability is obtained (Top Blade (#6) Passes Lower Blade (#16).
6. Tighten Lock Nuts on Pull Rod Assemblies (#27).

BLADE GAP SETTINGS (CUTTING EDGE SPACE)

To assist in preventing accidents or injuries, recommend two (2) People minimum be assigned to adjust this machine.

HOLDDOWN TENSION

1. Operate machine. Insure that 5/8” Flat Washer (#11 or #11A) has free movement and holds Holddown (#4) in straight position. Adjust with Hex Bolt (#9) and lock with Set Screw in **REAR** of Cutterhead (#3).
2. To adjust Holddown (#4) to Table (#1) clearance, loosen Lock Nuts and rotate square Head Bolts (#12). Factory set at 1/4” clearance.
3. To adjust Tension (Clamping Pressure) tighten or loosen **NYLOC Nuts** (#7) to desired position.

BLADE ROTATION

National Sheet Metal Machines, Inc., accepts no responsibility for any accident, injury, or damage caused by or resulting from improper or Unsupervised Blade Rotation.

EXTREME CAUTION MUST BE OBSERVED AS BLADES ARE EXTREMELY SHARP AND DELICATE.....

Standard Blades on ALL National Shears have four (4) available Cutting Edges.

1. Raise Cutterhead (#3) to it's Upper Most Position.
2. Lock Cutterhead (#3) in Position.
3. Remove Holddown Assembly (#4)
4. Remove Upper Blade (#6) clean and remove any burrs with emory stone, etc. Clean Blade Pad and Flat file to remove burrs, etc.
5. Follow Step 4 for Bottom Blade (#16).
6. **1st Rotation**
Rotate Blades (#6 & #16) 180 degrees END to END (Left to Right)
2nd Rotation
Maintain same position as 1st Rotation above and LOWER Upper Blade (#6) to table (# 1) and RAISE Table Blade (# 16) to Cutterhead (# 3).
3rd Rotation
Repeat as 1st Rotation.
7. Adjust Table Blade (#16) LEVEL with Top of Table (# 1). Lock Blade Bolts and adjuster Nuts.
8. Raise Upper Blade (#6) to rest on Bumper Pad as Much as Possible.
9. Remove Locking Device as defined in Step 2 on Previous page.
10. Adjust Blade Gap Setting. (See page 12).
11. Replace Holddown Assembly (#4), Adjust and Test. (See Holddown Pressure or tension, pg 12).

PREVENTATIVE MAINTENANCE

- 1. Lubricate machine often. Lubrication points are shown on Parts Lists, Pg. 5-12. Recommend DAILY if in production WEEKLY if for normal use.**
- 2. ALWAYS keep Blades (#6 & #16) clean. Wipe DAILY with light weight lubricant. Keep Blades (#6 & #16) SHARP, rotate as often as necessary (Four Cutting Edges) (See Blade Rotation, pg. 20-21) and replace or resharpen when necessary. Sharp Blades REDUCE STRESS on machine parts and helps to insure a long, trouble-free life for your machine.**
- 3. Drain Air Supply Line Daily, more often if Heavy Condensation is evident.**

RECOMMENDED LUBRICANTS

CUTTERHEAD (#3) or HOLDDOWN ASSEMBLY (#4)

VALVOLINE Multi-Purpose Lithium Grease PN:609
Or Equivalent

TREADLE ASSEMBLY (#28 OR #47)

NAPA Dripless Oil, 3 in 1 Oil, or Equivalent

SPRING ASSEMBLY (N5216 ONLY) (#19)

VALVOLINE Multi-Purpose Lithium Grease PN:609
Or Equivalent

ACCESSORIES INSTALLATION

(STANDARD EQUIPMENT)

FRONT ARM EXTENSIONS

1. Install Hex Bolts with Flat Washers into Tapped Holes adjacent to “T” slots in Front of Table (#1).
2. Slip Extension Arm over Hex Bolts and line up “T” slots.
3. Raise Extension Arm until FLUSH with Top of Table (#1), tighten Hex Bolts.
4. Repeat # 1 - 2 - 3 above for all Extension Arms provided.

MANUAL BACK GAUGES

1. Slide Scaled Back Gauge Rods (#38) into large holes in rear left and right side of Cutterhead (#3).
2. Push Back Gauge Blocks (#41) forward until Angle (#39) touches Table Blade (#16). Adjust Scaled Rods (#38) to “0” (first mark) and tighten Set Screws in Cutterhead (#3).
3. Slide Back Gauge out to any point and Measure from Table Blade (#16) for Accuracy to Rod (#38) to actual dimensions.

OPTIONAL ACCESSORIES

OPTIONAL SQUARING ARM

1. Remove Scale (#20) from Left side of Table (#1).
2. Install Hex Bolts with Flat Washers into Tapped Holes in front Of Table (#1) (Left).
3. Hang Squaring Arm over Hex Bolts. Tighten But allow for free movement of Squaring Arm.
4. Install Squaring Arm Scale onto Table (#1). Square off table Blade (#16) for accurate measurement etc.
5. Lift Squaring Arm into position. (Scale should fit snug against Ridge on arm). Install and tighten remaining 5/16" SHCS into Scale.
6. Install Leg (Short stud into Squaring Arm) and adjust to floor For stability.

WARRANTY

National Sheet Metal Machines, Inc. warrants this product to be free of defects in material and/or workmanship for a period of THREE (3) YEARS from the date of purchase. National Sheet Metal Machines, Inc. promises to replace any of this product that proves upon our inspection and within THREE (3) YEARS from date of purchase to be defective in material or workmanship. National Sheet Metal Machines, Inc. will honor a LIFE TIME WARRANTY on breakage of Steel Cutterhead, Table, Holddown and Side Panels for original purchaser of machine and a (60) day Warranty on Electronics on all Shear machines.

All labor and/or transportation cost or charges incidental to warranty service are at the expense and shall be borne by the Purchaser/User.

In NO event shall National Sheet Metal Machines, Inc. be liable for incidental or consequential damages, for damages as a result of neglect, misuse, abuse, or alterations of any kind to the machine.

No person is authorized to change, add to, or create any warranty of obligation other than that set forth herein.

This machine is designed for and has been factory tested to cut Mild Steel of Low Carbon (20 - 25%) composition.

It is the Purchaser/User's sole responsibility to obtain material that is AT or BELOW specified standards.

National Sheet Metal Machines, Inc. accepts NO liability or assumes any responsibility for damages, accident or injury, or any charges incurred as a result of this machine.

To obtain Warranty service, contact the dealer from which machine was purchased.

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