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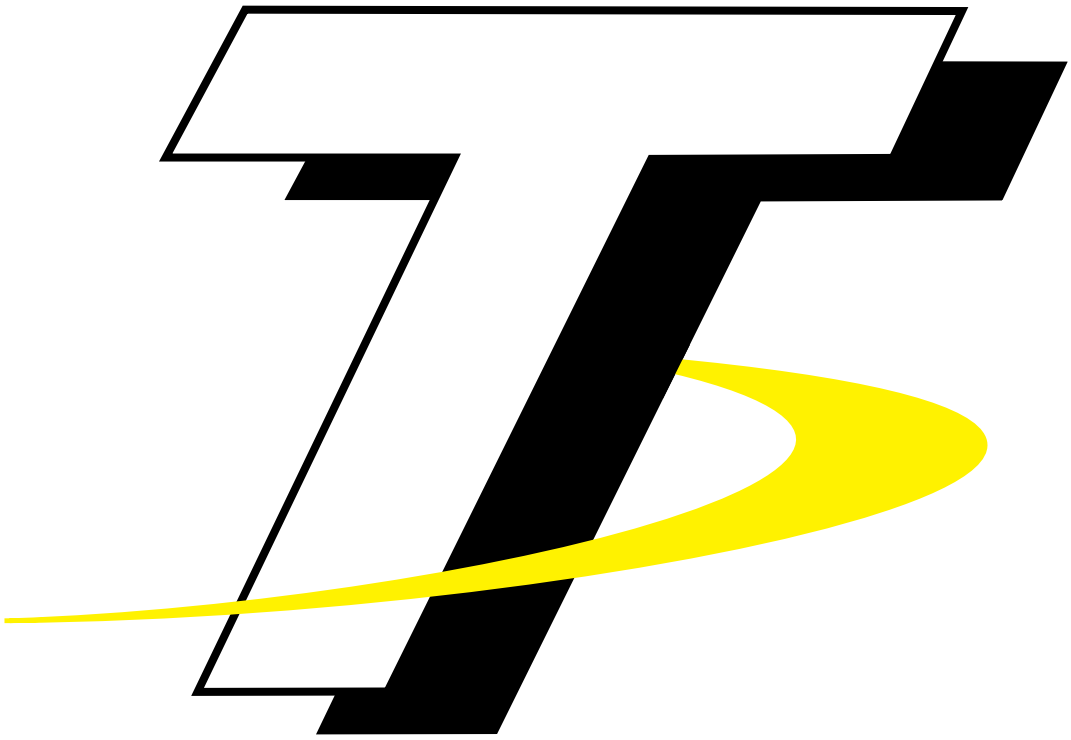


Here at Trick Tools we believe that our customers deserve the best value in their tool and equipment purchases. We are constantly at work searching out a variety of high quality, high performance tools to offer at the best prices possible. Our commitment to you is that we will not offer “cheap junk” 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

Sheet Metal Machines, Inc.

INSTRUCTIONS
MANUAL

FRONT - OPERATED DIGITAL BACK GAUGE

ALL MODELS

MADE IN **USA**

CONTENTS

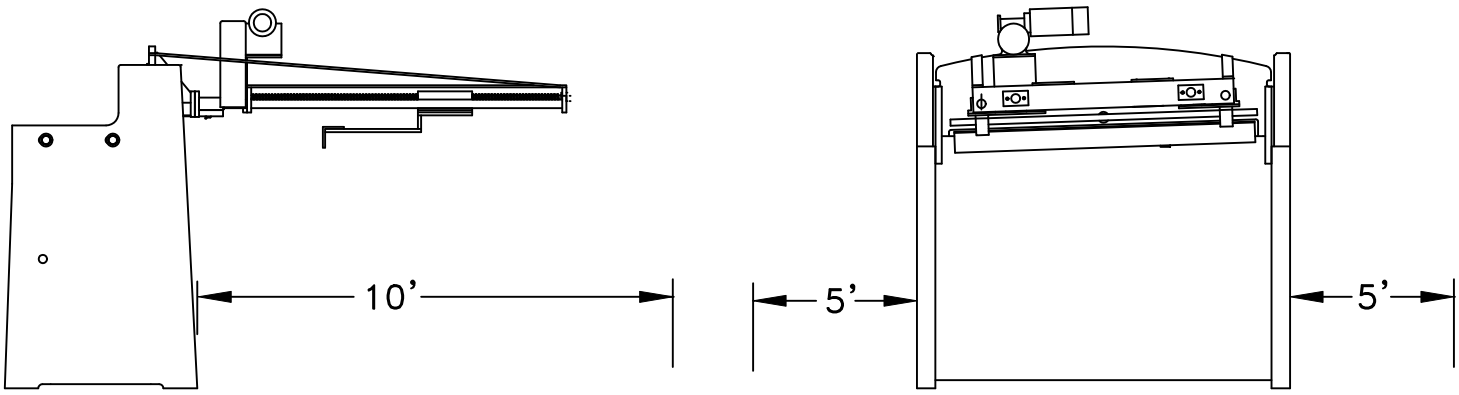
Purchased Thru _____

Serial No. _____

Model No. _____

Date Installed _____

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.

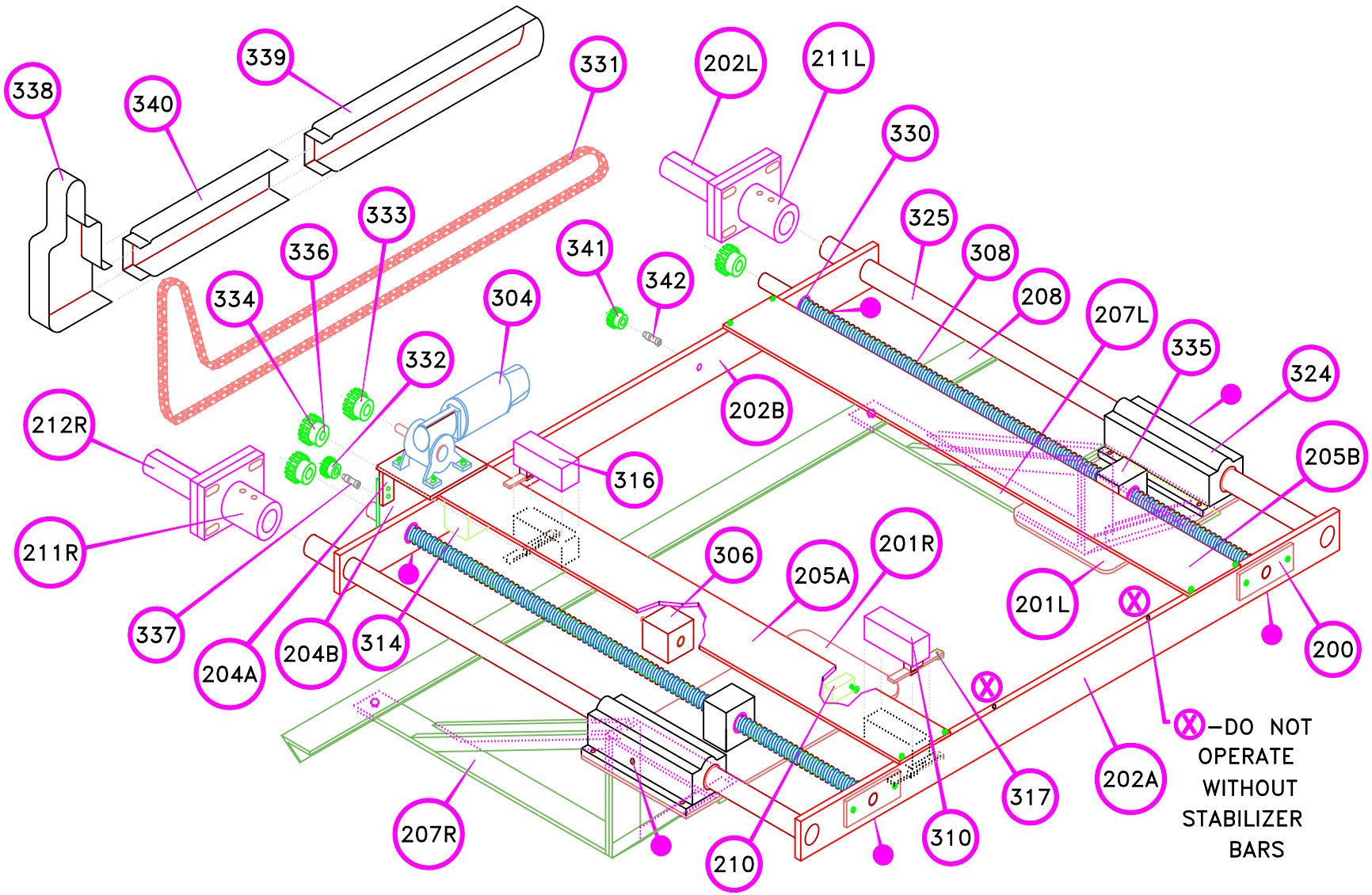
4. Do NOT stack, store or place material, machinery, or any other obstructions in FRONT of machine that might cause tripping or in any way present a HAZARD to operators and / or helpers.

KEEP WORK AREA AND SAFE ZONES CLEAN

NATIONAL

PARTS LIST 96" & 120" DIGITAL BACK GAUGE

PART#	DESCRIPTION	QTY
200.	BEARING RETAINER PLATE	3
201R.	RIGHT BEARING PLATE	1
201L.	LEFT BEARING PLATE	1
202A.	REAR LEFT TO RIGHT BRACE	1
202B.	FRONT LEFT TO RIGHT BRACE	1
204A.	MOTOR MOUNT L-MOUNT	1
204B.	MOTOR MOUNT	1
205A.	RIGHT FRONT TO BACK BRACE	1
205B.	LEFT FRONT TO BACK BRACE	1
206.	DELETED	-
207R.	RIGHT ANGLE EXTENSION ARM	1
207L.	LEFT ANGLE EXTENSION ARM	1
208.	ANGLE	1
210.	STOP ADJUSTMENT BLOCK	1
211R.	RIGHT BACK GAUGE MOUNT	1
211L.	LEFT BACK GAUGE MOUNT	1
212R.	RIGHT BACK GAUGE ADAPTER	1
212L.	LEFT BACK GAUGE ADAPTER	1
213.	CONTROL BOX MOUNT (NOT SHOWN)	1
214.	STABILIZER BAR (NOT SHOWN)	2
300.	DELETED	-
301.	DELETED	-
302.	DELETED	-
303.	DELETED	-
304.	MOTOR	1
306.	ROTARY PULSE GENERATOR	1
307.	DELETED	-
308.	DRIVE SCREW	2
310.	BACK LIMIT SWITCH	1
314.	JUNCTION BOX	1
316.	FRONT LIMIT SWITCH	1
317.	LIMIT SWITCH ADJUSTMENT ARM	2
324.	BEARING BLOCK	2
325.	POLISHED RODS	2
326A.	DELETED	-
326B.	DELETED	-
327.	CONTROL BOX (NOT SHOWN)	1
328.	CONTROL BOX COVER (NOT SHOWN)	1
329.	DELETED	-
330.	DELETED	4
331.	CHAIN	1
332.	IDLER SPROCKET	1
333.	SPROCKET	3
334.	SPROCKET	1
335.	DRIVE SCREW MOUNT	2
336.	SPROCKET BUSHING	1
337.	IDLER SPROCKET BUSHING	1
338.	CHAIN COVER	1
339.	CHAIN COVER	1
340.	CHAIN COVER	1
341.	IDLER SPROCKET	1
342.	IDLER SPROCKET BUSHING	1



LUBRICATE DRIVE SCREWS (#308)
WITH WAY OIL MONTHLY

●—LUBRICATION POINT

NATIONAL

PARTS LIST 96" & 120" DIGITAL BACK GAUGE

NATIONAL SHEET METAL MACHINES, INC.

252 SMARTT STATION ROAD

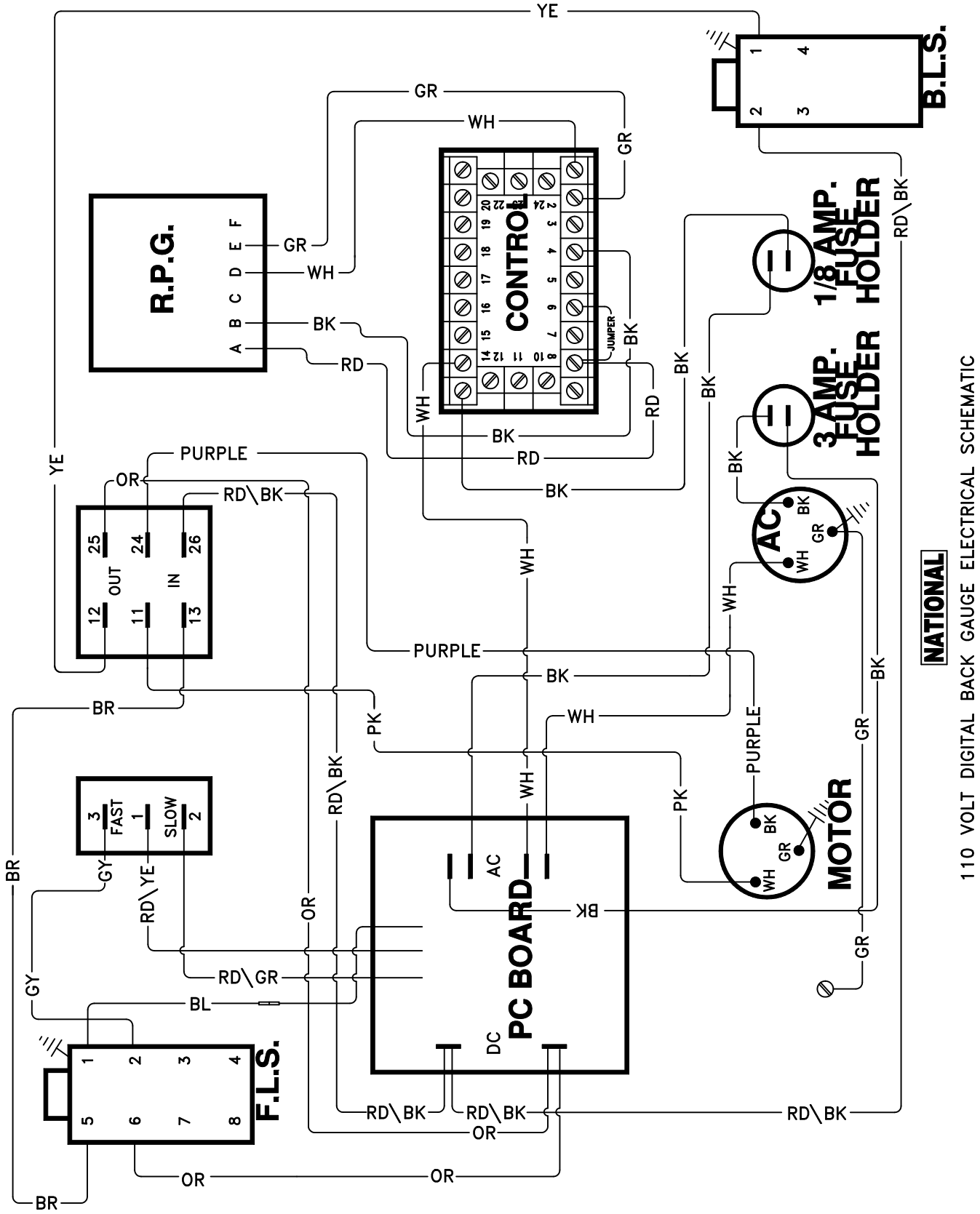
SMARTT, TENNESSEE 37378

Phone (931) 668-3643 ~ Fax (931) 668-3177

WIRING INSTRUCTIONS

1. Screw Pin Connector to Bottom of Control Box **BEFORE** making power connection, using caution to keep Pin Connector Cable **AWAY** from **ALL** moving parts.

2. This Front Operated Digital Back Gauge unit is designed to be plugged into 110 volt outlet **ONLY.**


NATIONAL
110 VOLT DIGITAL BACK GAUGE ELECTRICAL SCHEMATIC
R.P.G.
A B C D E F
CONTROL
JUMPER
B.L.S.
1 2 3 4
3 AMP. FUSE HOLDER
1/8 AMP. FUSE HOLDER
AC
MOTOR
PC BOARD
AC
DC
F.L.S.
1 2 3 4 5 6 7 8
OUT
IN
12 11 13 25 24 26
3 FAST 1 SLOW 2
YE
GR
WH
BK
RD
PURPLE
OR
RD\BK
BR
PK
GY
RD\YE
RD\GR
BL

SET UP INSTRUCTIONS
NBG36 - NBG52

1. Remove entire contents from crate:
   1-Left Back Gauge Mount
   1-Left Back Gauge Adapter
   1-Right Back Gauge Mount
   1-Right Back Gauge Adapter
   1-Back Gauge Control Box
   1-Control Box Mount Bracket
   2-Stabilizer Bars
   1-Hardware Packet
   1-Digital Back Gauge

Inspect machine for damages and accountability of contents in crate .....

2. Slide Back Gauge Adapters (#212 R & #212 L) into holes located at the Rear of Shear until Rods (#325) rest against Shear Blade at Back of the holes. Back Gauge Adapter (#212R) turns up, Adapter (#212L) turns down. Lock Set Screws down firmly.

3. Attach Back Gauge Mounts (#211 R & #211L) to Back Gauge Adapters (#212 R & #212L) Respectively using the Hex Bolts & Flat Washers provided in Hardware Packet.

4. Slide Back Gauge into Mounts (#211 R & #211L) until Rods (#325) rest against back of Mounts (#211 R & #211L). Lock down Set Screws. Tighten the four (4) Flange Hex Bolts On each side of Mounts (#211 R & #211L).

5. Attach Stabilizer Bars (#214) to REAR Left to Right Brace (#202A) with 5/16" X ¾" Cap Screws provided. Level Back Gauge WITH Shear by Lifting REAR of Back Gauge UNTIL Polished Rods (#325) are LEVEL WITH SHEAR TABLE, then TIGHTEN slotted end Of Stabilizer Bars (#214) with 5/16" X ¾" Cap Screws and Flat Washers provided.

6. Attach Control Box Mounting Bracket (#213) (8 ½" Side) to Side Panel of Shear Using 5/16" X 1" Hex Bolts. Secure Control Box (#320) to Control Box Mounting Bracket (#327) (9 5/8" side) using 5/16" X ¾" Hex Bolts & Washers.

7. REMOVE Red Plastic Plug from Oil Fill Vent on Motor BEFORE using.

SET UP INSTRUCTIONS
NBG48, NBG72, NBG96, NBG120

1. Remove entire contents from crate:
   1-Left Back Gauge Mount
   1-Left Back Gauge Adapter
   1-Right Back Gauge Mount
   1-Right Back Gauge Adapter
   1-Back Gauge Control Box
   1-Control Box Mount Bracket
   2-Stabilizer Bars
   1-Hardware Packet
   1-Digital Back Gauge

Inspect machine for damages and accountability of contents in crate ……

2. Slide back gauge adapters 212 R and 202 L 2 ½" into holes located at the rear of The cutter head. Lock in place with set screws temporarily.

3. Slide backgauge assembly all the way into 211 R and 211 L and permanently lock in Place with set screws.

4. Using the fast button, run backgauge digital readout all the way forward until Limit switch is tripped. Then use slow button unit until completely stopped. CAUTION!! DOES NOT let angle 208 hit cutting blades?

5. Position fencing angle 208 midway in adjustment slots of extension arms 207R and 207L and tighten.

6. Loose 212 R and 202 L from their temporarily locked position and push forward Until angle 208 is against the blade. Permanently lock both with set screws.

7. For fine tuning loosen 207 R and 207 L at the fence angle 208 and push angle 208 firmly against blade and tighten.

8. Add stabilizer bars.

ADJUSTING PROCEDURES

NBG36 - NBG52

1. Loosen 3/8" Bolts on Angle (#208), slide Angle (#208) toward rear of machine. Set DIRECTION Rocker Switch on Control Box (#327) To (IN) Position.

2. Push and Hold SPEED Rocker Switch in (FAST) position-this should Bring Angle (#208) to a preset stop of APPROXIMATELY 5/16" FROM BLADE.

3. Push and Hold SPEED Rocker Switch in (SLOW) position-this should Bring Angle (#208) from preset stop to Blade.

4. Push Angle (#208) FIRMLY against Blade, then tighten 3/8" Bolts On Angle (#208).

NBG48, NBG72, NGB96, NBG120

1. Loosen 3/8" Bolts on Angle (#208), Slide Angle (#208) toward rear of Machine.

2. Loosen 3/8" Bolts on Angle Extension Bars (Left & Right) (#207 A & #207 B).

3. Push DIRECTION Rocker Switch on Control Box to (IN) position.

4. Push and Hold SPEED Rocker Switch in (FAST) position-this should bring Angle (#208) to preset stop of APPROXIMATELY 5/16" FROM BLADE.

5. Push and Hold SPEED Rocker Switch in (SLOW) position-this should bring Angle (#208) from preset stop to Blade.

6. Push Angle (#208) FIRMLY against Blade, tighten 3/8" Bolts on Angle (#208).

7. Raise Angle Extension Bars (#207 A & 207 B) until top of Angle (#208) is APPROXIMATELY 1/4" ABOVE TABLE BLADE. Tighten Bolts on Angle Extension Bars (#207 A & # 207 B).

FOR FINE ADJUSTMENT FROM ANGLE TO BLADE

Stop Adjustment Block (#210) Screw should NOT be turned unless Angle (#208) Does NOT touch Blade.

Turn Front Screw CW on Stop Adjustment Block (#210) to move Angle (#208) CLOSER to Blade. Turn Front Screw CCW to move Angle (#208) AWAY from Blade.

FOR FINE ADJUSTMENT FROM BEARING BLOCK TO REAR LEFT TO RIGHT BRACE

Maintain a CLEARANCE of Approx. .125" BETWEEN Bearing Blocks (#324) and Rear Left to Right Brace (# 202 A).

Turn Rear Screw CW on Stop adjustment Block (# 210) to move Bearing Block (#324) CLOSER to Rear Left to Right Brace (#202 A). Turn Rear Screw CCW to Move Bearing Block (#324) AWAY from Rear Left to Right Brace (#202 A).

OPERATION

Pushing DIRECTION Rocker Switch to IN Position moves Angle (#208) CLOSER to Blade.
Pushing DIRECTION Rocker Switch to OUT position moves Angle (#208) AWAY from Blade.

Push & Hold SPEED Rocker Switch in FAST or SLOW position to achieve desired speed of travel.

>>> After ALL Adjustments and Set-Up Procedures have been COMPLETED, machine is ready to operate <<<

1. Push DIRECTION Rocker Switch to IN position and HOLD SPEED Rocker Switch In FAST position until it stops, then HOLD SPEED Rocker Switch in SLOW Position until it stops.

2. Push RST/CLR Button on Totalizer: L.E.D. should read **0.000***

   RST/CLR is the ONLY button on Totalizer that is functional to operate. ALL Buttons to LEFT of RST/CLR are rendered NON-FUNCTIONAL by manufacturers, These buttons are used for programming by manufacturers.

3. To get to desired position, Push DIRECTION Rocker Switch to OUT position.

4. Push SPEED Rocker Switch in SLOW position until Limit Switch (#316) Disengages.

5. Hold SPEED Rocker Switch in FAST Position until machine reaches Within **0.030”** of position desired.

6. Jog Speed Rocker Switch in SLOW position until desired position is attained.

MAXIMUM TRAVEL IS 30”

PREVENTATIVE MAINTENANCE

1. **Lubricate machine as recommended. Lubrication Points** are shown on Parts Lists. Recommended **WEEKLY** Lubrication for Bearing blocks (#324) and Grease Fittings…**MONTHLY** for Drive Screws (#308).

2. When operating under normal operating conditions, check Oil Level in Motor (#304) **EVERY 4** to **5 MONTHS** or **600 OPERATING HOURS** Whichever occurs first. **DO NOT OVER - FILL.**

RECOMMENDED LUBRICANTS

DRIVE SCREWS (308)

Way Oil or Equivalent

BEARING BLOCKS (324)

Thomson 60 Case Linear Race Oil or Equivalent

GREASE FITTINGS

Mobil Mobilith AW – 1 or Equivalent

MOTOR (304)

Lubricate with a good quality Worm Gear Oil conforming to AGMA #5 EP compounded (SAE # 90) oil, Bodine Lubricant # L0-23, or Equivalent

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TROUBLE – SHOOTING

(Most COMMON Problems encountered)

1. **Will NOT turn on**

   a.) Check Central Power Source (Circuit Breakers)
   b.) Make sure plugged into Power Source
   c.) Check fuses, 3 amp. & 1/8 amp. slo-blo, located in Control Box
   d.) Check pin Connector for proper alignment and a snug connection
   e.) Look for loose or disconnected wires in Control Box

2. **Comes ON but will NOT travel**

   a.) Check Motor (# 304) for rotation
   d.) Check for obstructions on Left & Right Sides and Under Machine
   c.) Check for Broke Chain (#331) or Loose Sprockets (#333 & #334)

3. **Loud "CHATTER" in motion (front to back)**

   a.) Check ALL Lubrication Points
   b.) Check for Loose Chain (#331)

4. **Machine Cuts OFF**

   a.) Check 3 amp & 1/8 amp slo-blo fuses in Control Box
   b.) Check Control Box for loose or disconnected wires
   c.) Check Central Power Source (Circuit Breakers)
   d.) Make sure plugged into Power Source
   e.) Check Pin connector for proper alignment and a snug connection
   f.) Check Bearing Blocks (#324) for BINDING against Left to Right Braces *(See Adjusting Procedures pg. 12)

TROUBLE – SHOOTING

(Most COMMON Problems encountered)

5. **Control Box L.E.D. does NOT display**

a.) Check 3 amp & 1/8 amp Slo-Blo fuses on bottom of Control Box
b.) Make sure plugged into Power Source
c.) Check for loose or disconnected wires in Control Box

6. **END Play in Drive Screws**

a.) Check set screws in BOTH Left to Right Braces (#202A & #202B), move Left to Right Brace IN toward Drive Screw (308) and Tighten

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 the 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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MADE IN USA