

FARNHAM

FORMING ROLL

INSTRUCTION MANUAL

Prepared by **PARAGON RESEARCH, INC**

FARNHAM MANUFACTURING COMPANY

FARNHAM

FORMING ROLL

Foreword

The Farnham Forming Roll was designed for the efficient fabrication of accurate leading edge skins and other rolled parts of aluminum alloy which, due to the narrow margin between yield point and ultimate strength, cannot be practically formed in a die.

One of the major advantages of the Farnham Roll is its ability to form finished parts after all openings have been cut and all holes drilled in flat sheets.

The use of Farnham's precision welded steel construction in the manufacture of Farnham Rolls gives maximum strength and rigidity with a minimum of weight. Exacting manufacturing standards are coupled with the essential simplicity of design of the Farnham Rolls to prevent mechanical failure and subsequent loss of production time.

High production rates can be maintained—even on three shift operation because of the ruggedness of Farnham Rolls and their careful manufacture.

FARNHAM MANUFACTURING COMPANY
1646-1654 SENECA STREET **BUFFALO, NEW YORK**

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FARNHAM

FORMING ROLL



INSTRUCTION MANUAL

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Operating Instructions

The following outline for forming leading edge skins is the result of the combined experience of the many users of Farnham Forming Rolls. While details of handling and production flow may vary in some plants, these points have been found to be the best basic procedure.

1. Make a full size male template. This template can be made of wood and can be of skeleton construction. (Fig. 1)

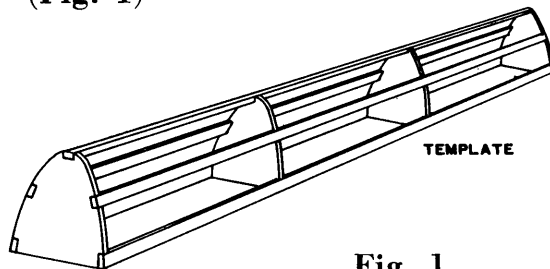


Fig. 1

2. Gradually roll a full length sheet, over its full developed width, to the *largest* radius on the template. Process slowly and gradually until a perfect fit is obtained. Note the final roll position as read on the dials which has produced the desired radius.
3. Place sheet on template. Mark on sheet and template where sheet leaves it. (Fig. 2)

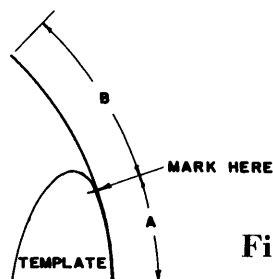


Fig. 2.

4. Roll remaining portion (B) of sheet to the next smaller radius and make a note of the roll position.
5. Repeat operation no. 3, marking on sheet where it leaves the template. (Fig. 3)

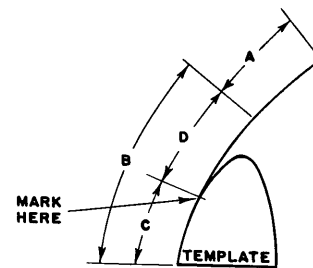


Fig. 3

6. Proceed to the next smaller radius over the remaining portion (D) and so on. Note roll positions for each radius.
7. Fig. 4 below illustrates the appearance of the finished skin.

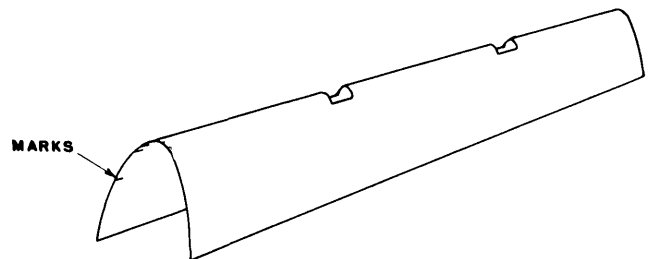


Fig. 4

Operating Instructions cont'd

8. Make a stencil of all the markings on the sheet.
9. Using the stencil, mark each end of all sheets of the same shape with quick drying varnish. (Fig. 5)

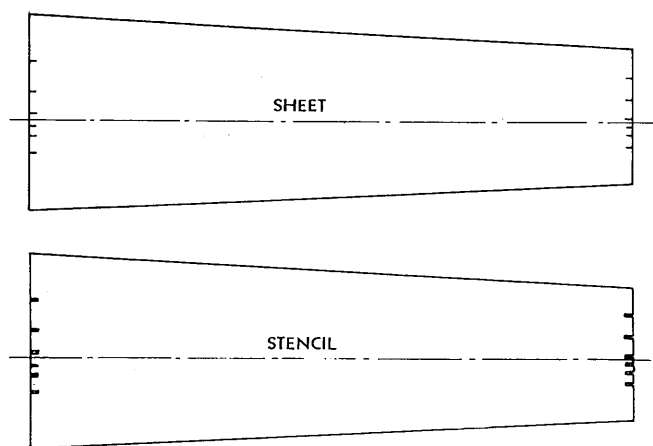


Fig. 5

10. Prepare a log sheet for the production forming of the skin to be fabricated, with the roll positions tabulated for each mark on the sheet. (Fig. 6)

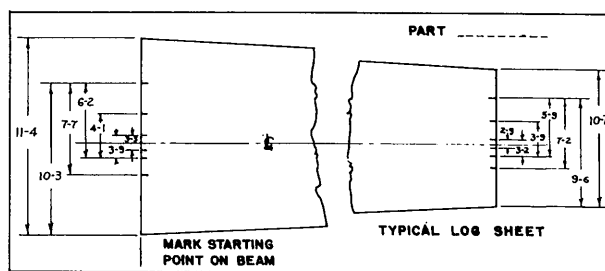


Fig. 6

Production Tips

Instead of marking sheets with a stencil, some operators mark a piece of "scotch tape" with the proper roll positions and attach it to the edge of the sheet to be formed. The same piece of tape can be used throughout the run.

Note: When operators have sufficient skill and experience, they often dispense with markings entirely and are able to gauge by eye when to start and stop.

Roll positions are taken from the top roll dials. Before the above operations are started, set the bottom rolls as far apart as possible, so that the smallest radius necessary can be rolled without difficulty. The bottom roll position usually does not change after the initial setting.

Notes and Short Cuts

1. Roll positions are taken from the top roll dials.
2. Set the bottom rolls as far apart as possible. To roll sharp radii at the nose of certain skins, it is sometimes necessary to bring the bottom rolls together. This relieves the rolling effort and prevents the too frequent shearing of the safety shear pin. This is especially true when rolling heavy or long sheets.
3. When rolling heavy or long sheets, the pressure from the top roll may be enough to deflect the bed and cause a double curvature in the sheet. To prevent this, an adjustment may be made by tightening the lower tie rods slightly to create a "camel-back" in the bed. Under the pressure of the top roll, this will flatten out and produce straight pieces.

All Farnham Rolls after the serial number 1-41-1 are provided with a graduated dial on the tie rods to facilitate this adjustment. Make a note on the production log sheet of

the tie rod adjustment best suited for each size sheet.

Machines with a solid bed (no tie rods) are provided with screw adjustments in the center of the lower roll supporting plates. This adjustment permits the rolls to be bowed in to compensate for bed deflection. In addition, jacking screws are provided on the lower flange of the bed. With these, the whole bed can be bowed. This is a more permanent setting and is recommended for long runs.

4. Heavy sheets must be rolled with more accuracy than light sheets of the same size because of the lower elasticity of the heavier sheets, consequently production will be slower.
5. It is common practice to pilot drill or punch all holes and cut all openings in the leading edge skins *before rolling*. The saving in jigs and fixtures is tremendous and the accuracy of the leading edges is not affected. This is one of the major advantages of the rolling process.

Emergency use of the Forming Roll as press brake

When forming the leading edges of ailerons, elevators or rudders, very sharp radii are often encountered. Fortunately, such skins are generally thin, and after the large radii have been *rolled* the nose can be “folded” in the machine.

Illustrated below is one method which can be used to get an accurate

nose, in the right place. For this operation, only the screw down motors are used.

Small radii can be “folded” by placing a piece of ordinary cold rolled steel under the top roll. This method Brinnels the rolls and should be used only in an emergency, and never for production of long skins.

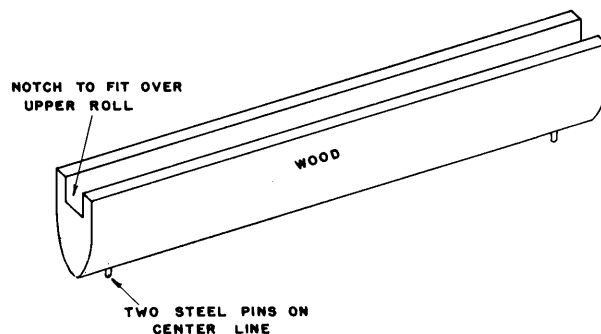
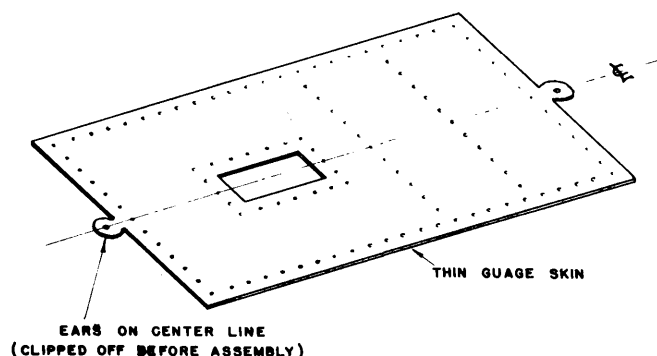


Fig. 7.



Adjustments

MAGNETIC BRAKES

All Forming Rolls After serial number 1-41-8, with the exception of the manually operated and 2015 - EXXX models are equipped with magnetic brakes on the screw down motors. By stopping the motors quickly, the brakes shorten the time required to bring the Indicator Dial to the setting and also make more accurate settings possible.

Before leaving the factory, the brakes on the two screw down motors are set to stop in close unison. Should the brakes get out of adjustment due to the uneven wearing of the brake linings, adjustments are provided to re-balance them. (see fig. 8)

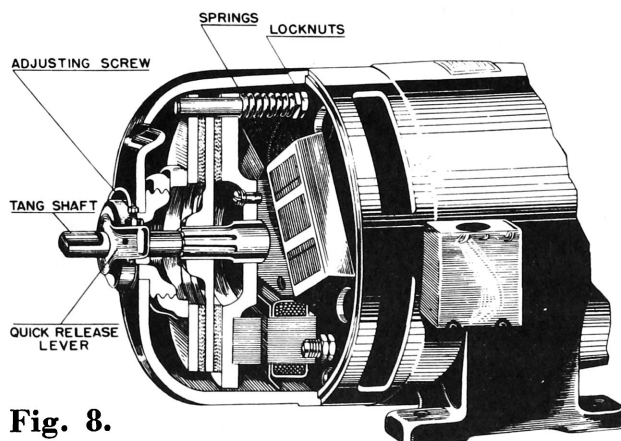


Fig. 8.

To adjust for quickness of stop:

For faster stop the tension on the three springs should be increased.

For slower stop the tension on these springs should be decreased.

It is important that all the lock nuts be adjusted the same amount. Other-

wise the brake will wear on one side only. **CAUTION: Do not set springs too tight.** This causes excess noise and vibration which will damage the magnets and overheat the magnetic coils.

INDICATOR DIALS

Procedure for resetting Indicator Dials. Move the two lower rolls until they meet in the middle of the machine. The pointers on the scale next to the Horizontal Roll Adjustment handwheels will indicate "O" and the Handwheel Dials will also read "O". Lower the top roll until it "nests" with the lower rolls, or touches them along its entire length. Then, using a $\frac{1}{8}$ " hexagonal Allen set screw wrench, set both the high and low speed dials at "6". The setting should be the same at both ends of the machine. It is necessary to remove the top dial to set the lower one.

Ordinarily, no adjustment is necessary on the alphabetic dials on the tie rods. These are set at "A" when the frame is leveled at the factory.

BED AND ROLL DEFLECTION ADJUSTMENTS

Under "Notes and Short Cuts" the fact is mentioned that when very heavy or long sheets are rolled, the top roll will exert enough pressure to deflect the bed and cause a double curvature in the sheet. Compensating adjustments are provided on all Farnham Rolls to correct this effect.

Adjustments cont'd

On all models, except the 1015-EXXX, 1215-EXXX and 2015-EXXX a threaded adjustment and dial indicator is mounted on the tie rods of the base. Tightening this adjustment puts a slight bow in the bed. In operation, the pressure of the roll flattens this out and thereby produces a straight piece. The reading of the tie rod dial should be noted on the production log sheet for each size of sheet to be formed.

Models 1015-EXXX, 1215-EXXX and 2015-EXXX are built with an all welded, solid steel base and have no tie rods. Two adjustments are provided to correct for bed deflection. In the center of the lower roll supporting plate are set screws. Tightening or loosening these bows the rolls and compensates for the deflection. The other adjustment consists of jacking screws in the center of the lower flange of the base. Pulling up on these has the effect of bowing the whole bed. This is a more permanent adjustment and is recommended, especially for production of many pieces.

TANG SHAFT

The screw down motors are equipped with a tang shaft extension on the high speed side which runs through the brake. If the motor should stall from

overload, a wrench can be used to back it off manually. (The motor brake should be released before trying to turn the motor shaft.)

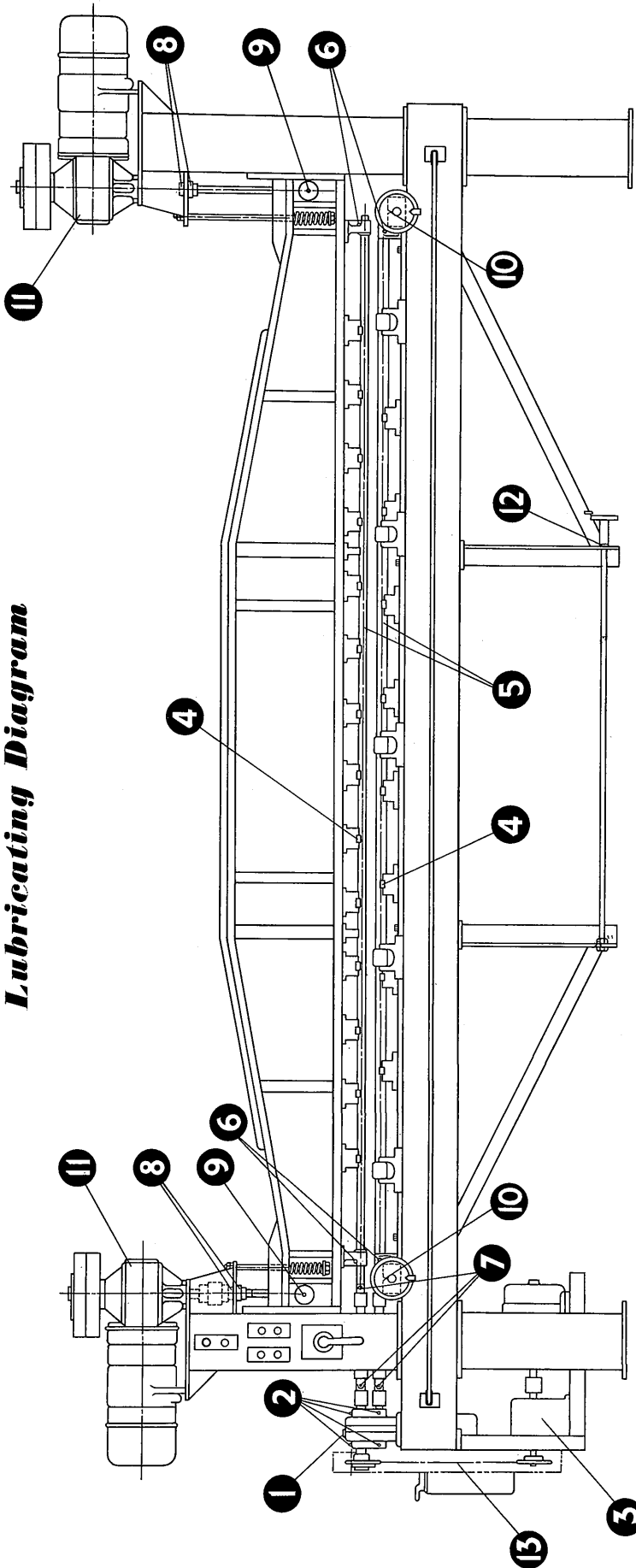
SLIP CLUTCH

The heavy duty Farnham Forming Rolls 1015-EXXX and 2015-EXXX are equipped with a slip clutch connecting the screws that operate the beam with the motors. All parts are strong enough to take the full load of the motor, and the slip clutches can be adjusted tight without harm to the machine. However, when necessity demands the use of this model as a brake, the clutches should be adjusted to give only the desired results and no more.

SYNCHRONOUS ACTION OF THE MOTORS

It is not commercially possible to obtain two motors that will start and stop at exactly the same time and at the same speed. When raising and lowering the beam with the common push button, the beam will not always return to its exact original position, and some jogging must be done at one end or the other. There is no known practical way of remedying this condition.

Lubricating Diagram



Service Chart

PART	LUBRICANT	INTERVAL	
		Monthly	Weekly
1. Gears in Housing	Gargoyle Grease AA No. 2	Keep filled to proper level.	Change every 6 mos.
2. Alemite Fittings (six)	Gargoyle Grease AA No. 2	Daily—wipe off excess oil	Wipe off with oiled rag once a day
3. Speed Reducer		Daily	Daily
Large Sizes—1015 EXXX—2015 EXXX		Monthly	Monthly
Small Sizes—All Others		Daily	Daily
4. Bronze Backing Steel Rolls	Gg. Super Cylinder Oil 600W	Weekly	Weekly
5. Long Polished Steel Rolls	Gg. Vactra Oil Heavy Medium X		
6. Alemite Fittings (six)	Gg. Vactra Oil Heavy Medium X		
7. Universal Joints (six)	Gg. Grease AA No. 2		
8. Thrust Bearings (four)	Gg. Vactra Oil Heavy Medium X		
9. Alemite Fittings	See lubricating instructions on motor		
10. Hand Wheel Bearings	Gg. Vactra Oil Heavy Medium X		
11. Gearhead Motors	Gg. Vactra Oil Heavy Medium X		
12. Tie Rod Adjustment	Gg. Vactra Oil Heavy Medium X		
13. Driving Chain	Gg. Vactra Oil Heavy Medium X		

The above lubricants or equivalent are recommended for the correct lubrication of FARNHAM FORMING ROLLS.

Parts Replacement

Farnham Forming Rolls have been designed for maximum efficiency and a wide range of productive capacity. Only materials of the highest quality are used in their construction. Every machine must pass the careful scrutiny of skilled Farnham inspectors, both for accuracy of operation and quality of workmanship.

However, in order to achieve the small radii which Farnham Rolls can produce, the top rolls themselves must, of necessity, be very small in proportion to the rest of the machine. Consequently the driving end of the rolls and the universal joints are small. These roll ends and universal joints are stressed almost to the ultimate strength of the material used in their manufacture.

Under good conditions, universal joints will require periodic replacement. When they start to give trouble, they should be replaced with new parts. Experience has shown that repaired joints do not stand up satisfactorily. The work of replacing the universal joints can be performed easily by any competent machine maintenance man.

The rolls themselves will show rings where they contact the supporting

rollers as soon as the machine is put into service. Ordinarily, these marks do not progress and it is our experience that rolls with thousand of hours of use are just as serviceable as new ones, provided they are given reasonable care and are dusted off at regular intervals with an oil soaked rag. (See Lubrication sheet).

DO NOT USE OVERSIZE SHEAR PINS!

DO NOT USE A LARGER DRIVING MOTOR THAN THAT FURNISHED ON THE MACHINE!

HEATING OF MOTORS

Screw down motors will run hot because they are subjected to continuous starting and stopping, and seldom have time to come to speed. *The heat is the result of current inrush and not overload.* This should cause no alarm. Farnham screw down motors have been designed for the purpose and stand up in service.

OVERLOAD PROTECTION

For the reasons outlined above, it is not practical to install overload relays on these machines. Due to the starting current surge they kick off constantly and interrupt production.

Sizes and Capacities of Farnham Forming Rolls

The Farnham model designation has been designed for the easy identification of any Farnham Forming Roll.

The first one or two digits of the model number indicate, in feet, the work length of the machine. The second two digits show the minimum radius, in inches, that the machine can roll. The letter "E" following the combination of these two numbers indicates that the machine has electrically powered motorized screw downs. Manually operated screw down models have no identifying letter.

After some model numbers appears one, two or three "X"s. These indicate the maximum sheet thickness that can be rolled successfully. "X" is the code for .090 gage sheet; "XX" shows .120 gage sheet; and "XXX" .180 gage sheet.

The Farnham Forming Roll line is broken down into six general design groups of standard machines.

Group A

658-E	1258-E	610-E	1210-E	610-EX
858-E	1558-E	810-E	1510-E	810-EX
1058-E		1010-E	1810-E	

Group B

1010-EX	610-EXX
1210-EX	810-EXX

Group C

1510-EX	1010-EXX
2015-EX	1210-EXX

Group D

1015-EXXX	1515-EXXX
1215-EXXX	2015-EXXX

Group E

638
738

Group F

658	1258	610	1210
858	1558	810	1510
1058		1010	1810

In addition to these models, special Forming Rolls designed to meet unusual specification requirements are available.

Farnham Forming Roll capacities as indicated by the above table are for the general run of work. It is often possible to roll skins heavier than the indicated capacity of the Roll under special conditions. For information on special jobs, write the Farnham Manufacturing Company.

How to Order

When it becomes necessary to order a spare or replacement part or group of parts, refer to the assembly drawing of the correct model of Forming Roll. This should be the drawing of the whole machine. Parts are designated by names. If two or more parts are similar but not the same, they will have the same name but will carry a suffix of A, or B, or C, etc.

If the part is not shown or named on the main assembly drawing of the machine, a sub-assembly will be referred to.

Find the proper part and *call for it by its correct name*, and suffix if it has one.

The quantity of parts will depend on how many are damaged or worn, or

how many of that particular part there are on the machine.

GIVE THE DRAWING NUMBER on which the part is shown.

GIVE THE SERIAL NUMBER of the machine. This will be found stamped on a brass plate on the operator's side of the machine.

Replacement parts for all electrical equipment should be obtained directly from the manufacturers of the equipment.

Controls for Farnham Forming Rolls are furnished by Allen-Bradley Co., General Electric Company and Micro-switch Corp.

Screw down motors and drive motors are supplied by Master Electric Co.

Important

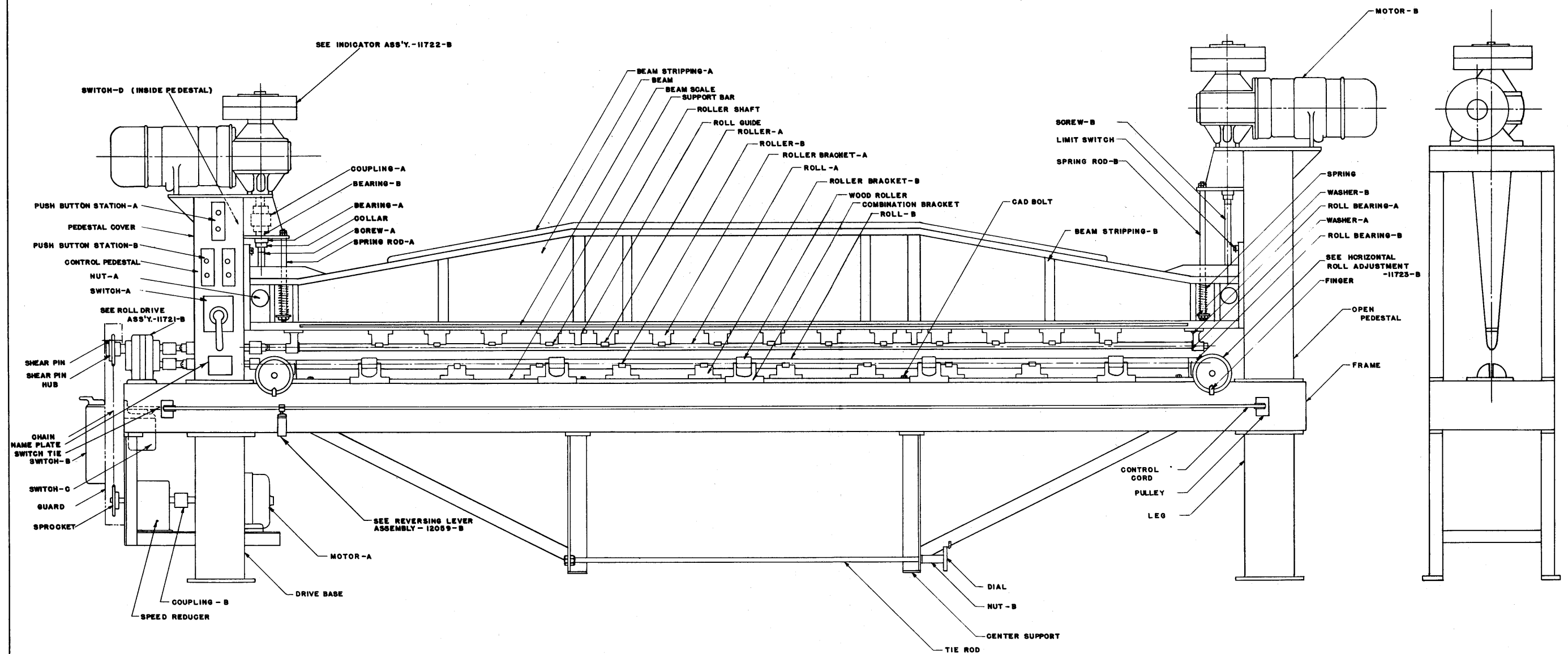
Be sure that your order for replacement parts has *all* the necessary information.

CORRECT NAME OF PART, including suffix

DRAWING NUMBER on which the part is shown

SERIAL NUMBER OF THE MACHINE

GROUP A

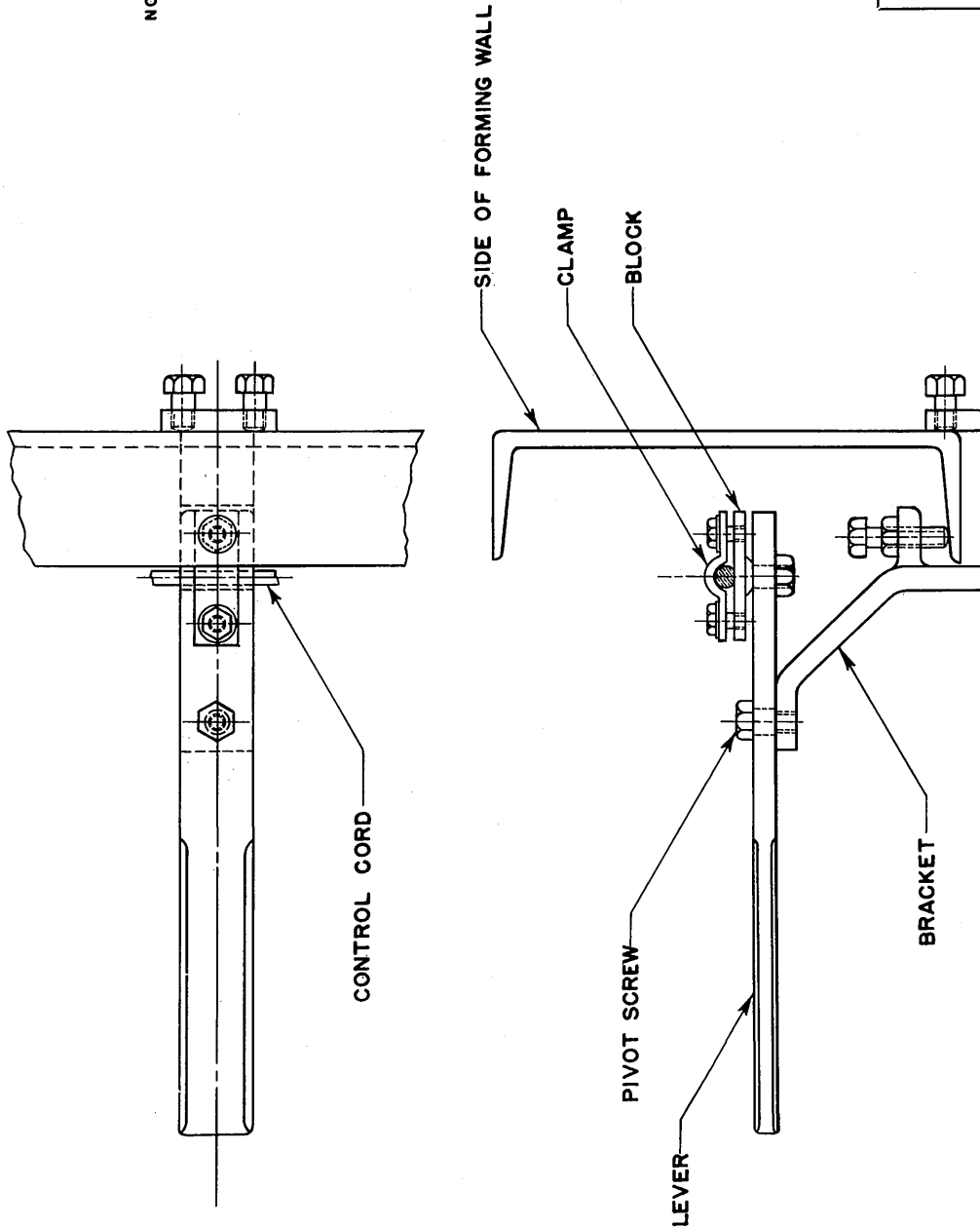


NOTE:-WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

STANDARD FORMING ROLL ASS'Y
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 11727-D

NOTE—WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED BY
THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

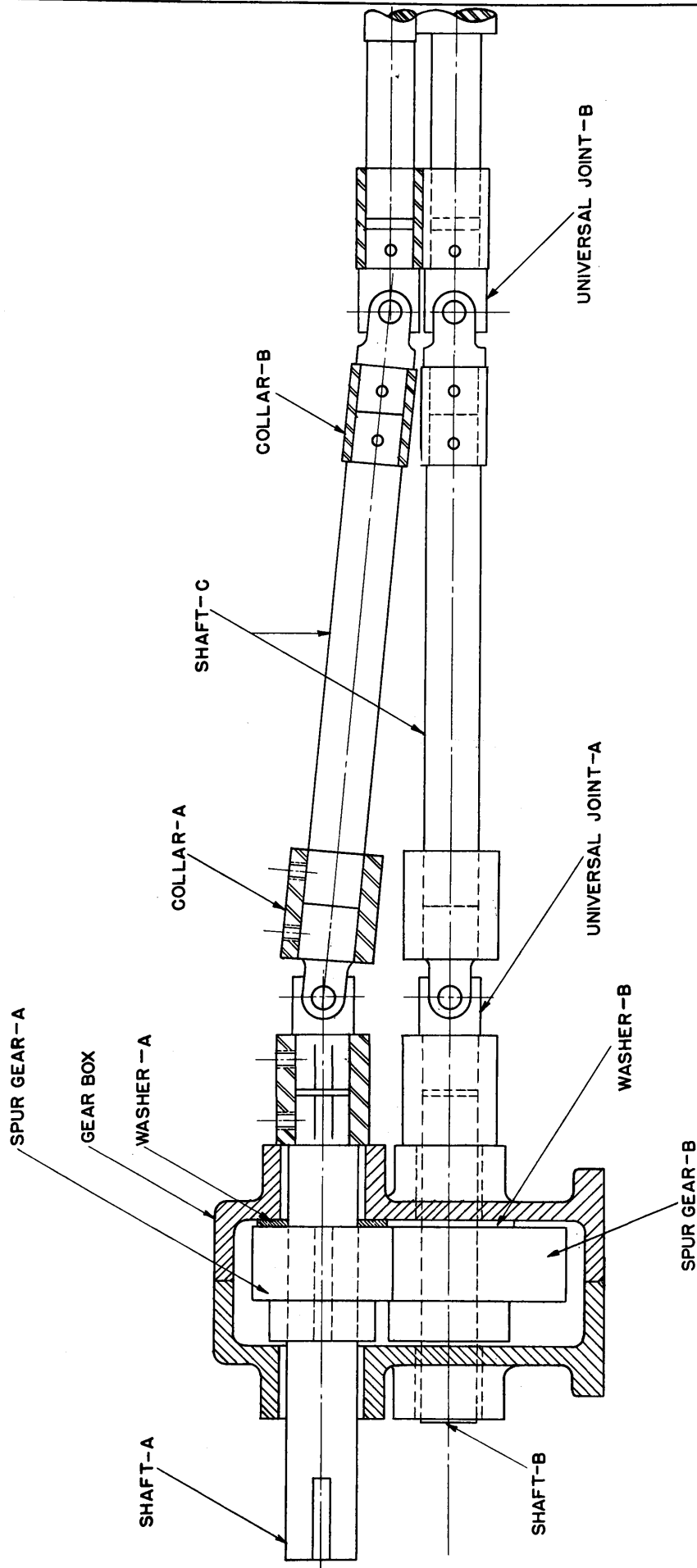


REVERSING LEVER ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12059-B



ROLL DRIVE ASSEMBLY

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

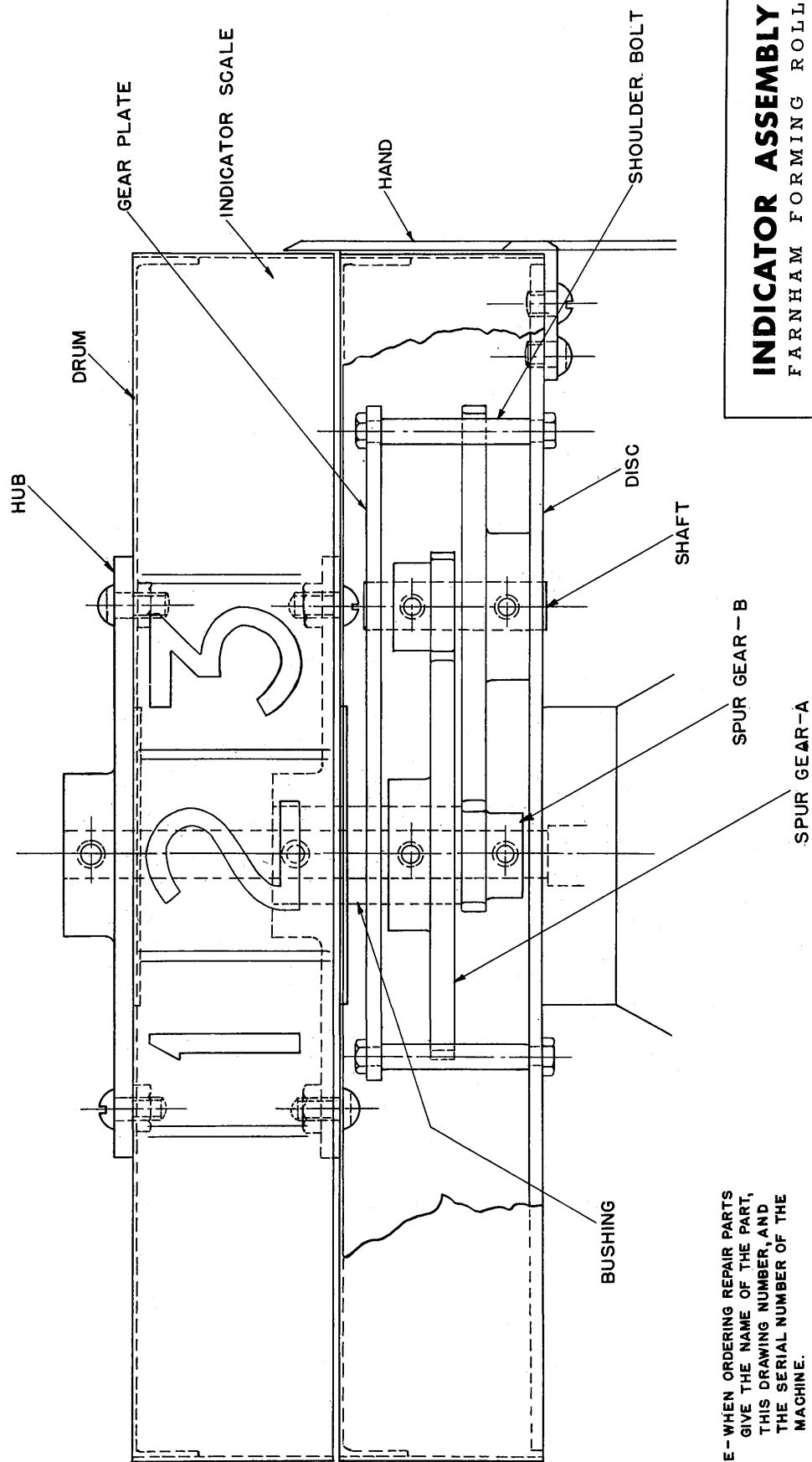
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11721-B

NOTE - NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.



NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

INDICATOR ASSEMBLY
FARNHAM FORMING ROLL

Designed by

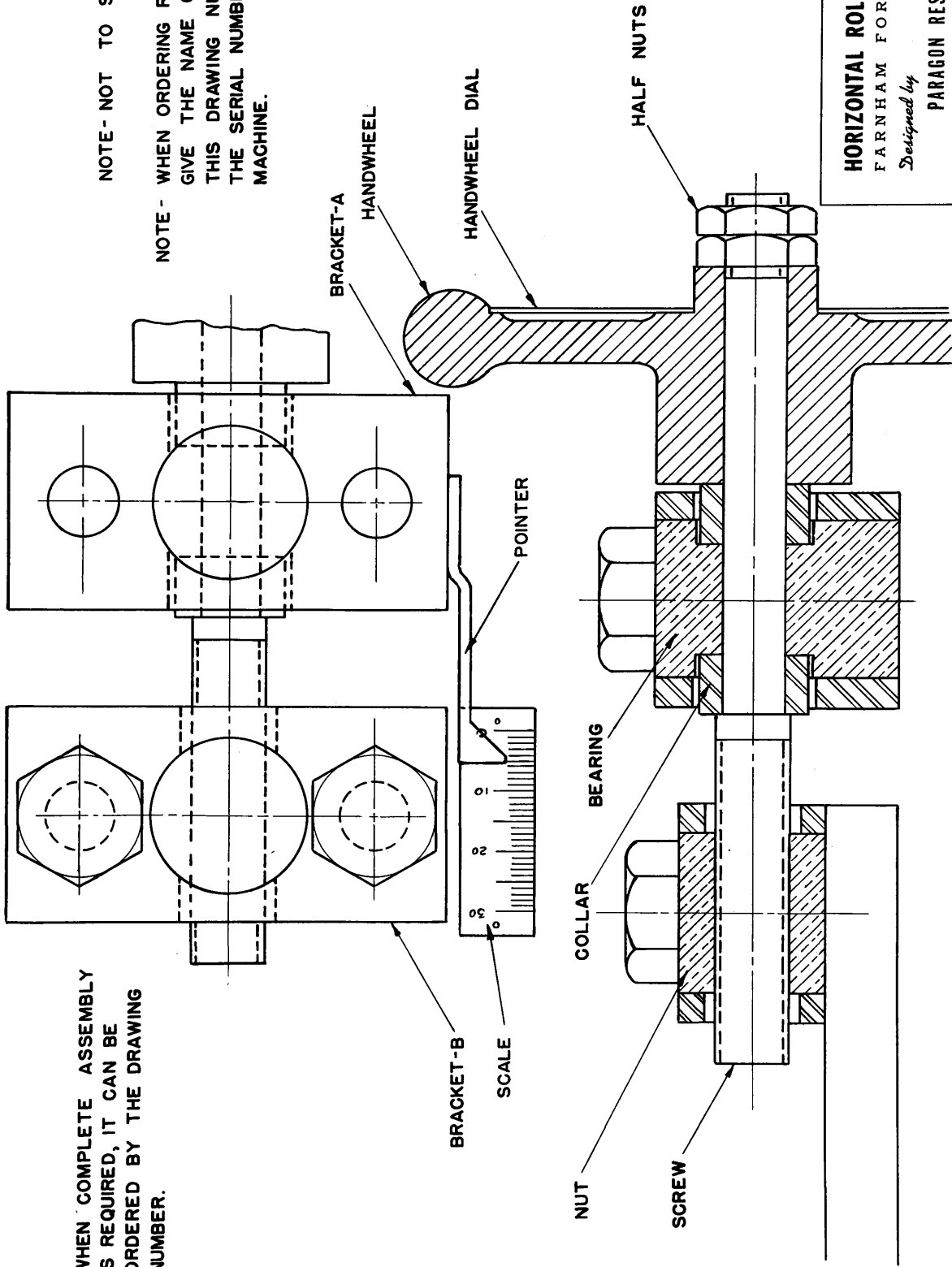
PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11722-B

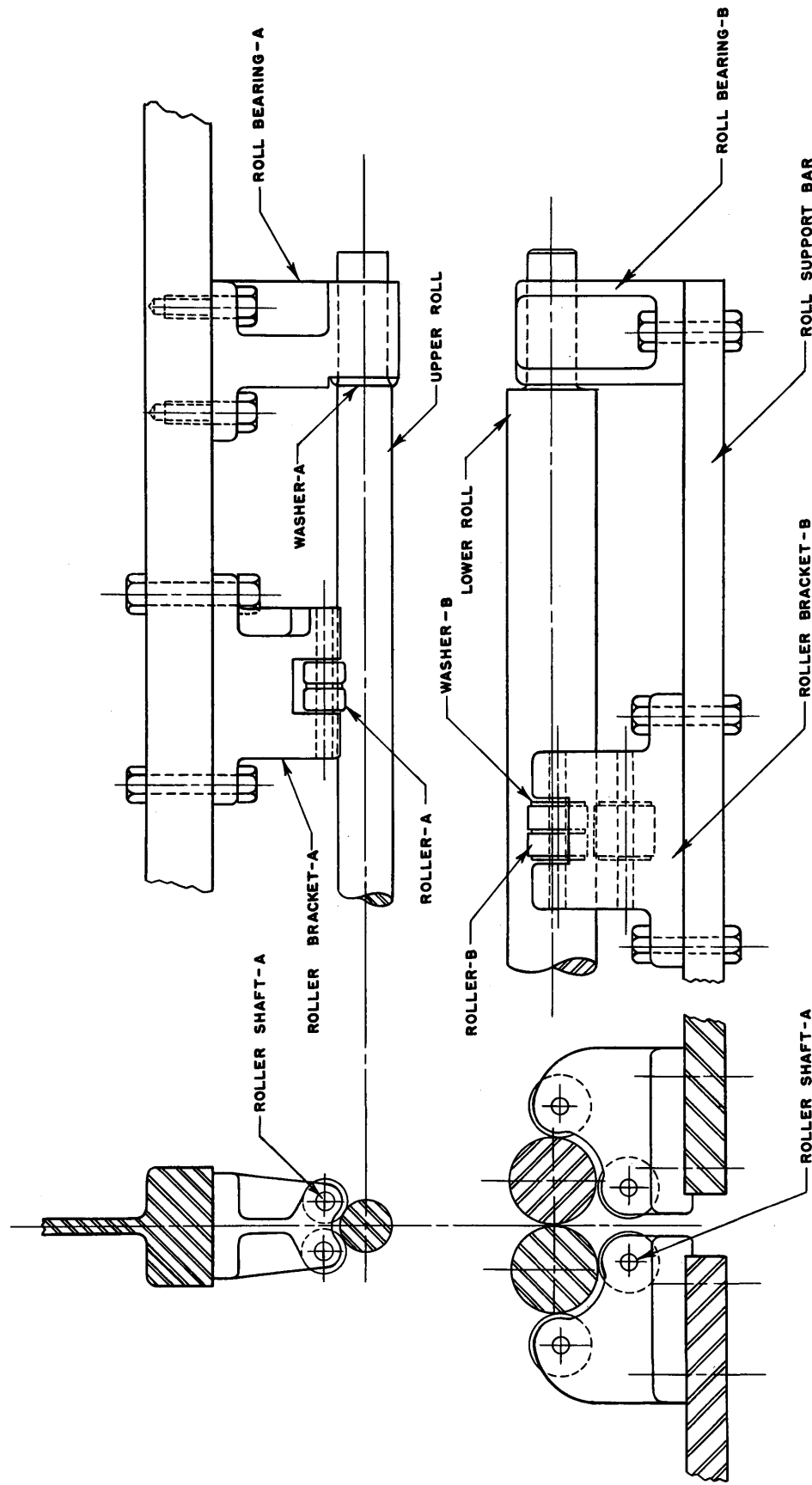
NOTE - WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.



HORIZONTAL ROLL ADJUSTMENT
 FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
 FARNHAM MANUFACTURING COMPANY
 PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

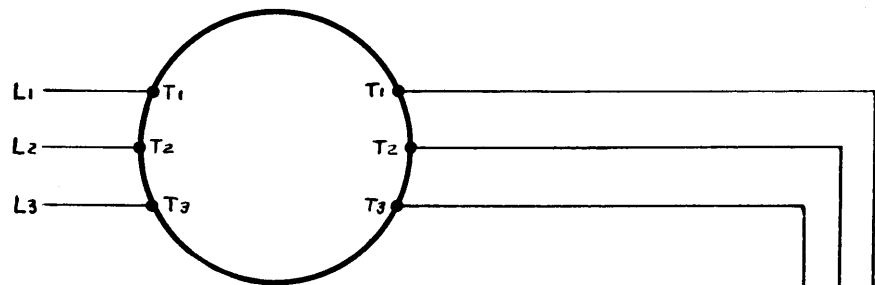
WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

SUPPORT BRACKETS
FARNHAM FORMING ROLL

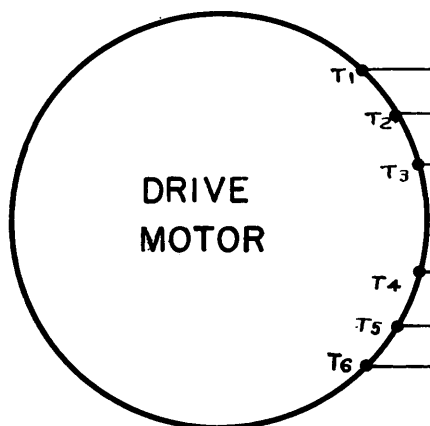
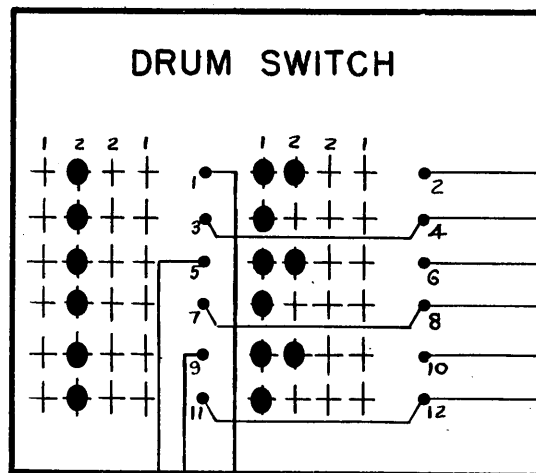
Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



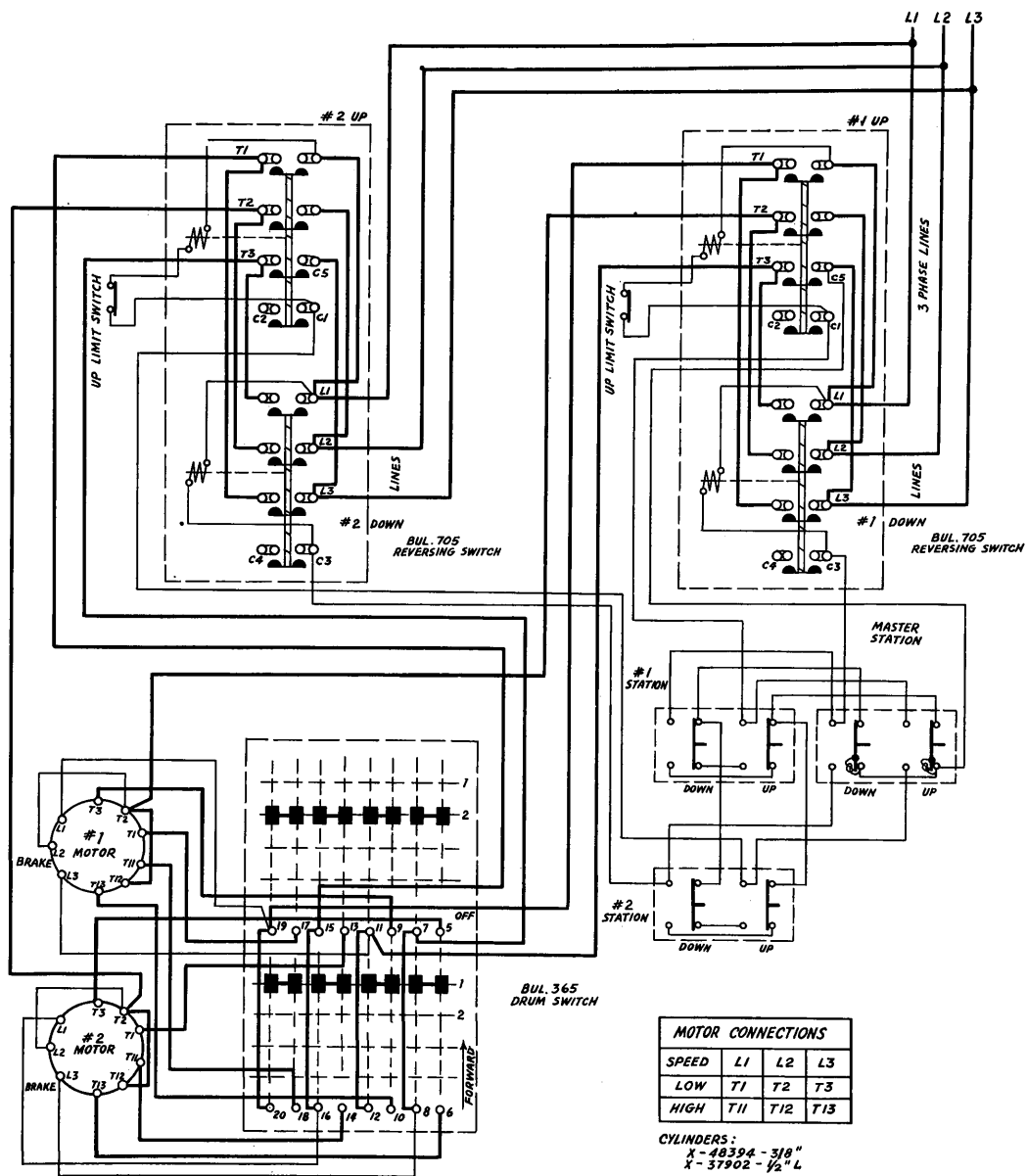
REVERSING
SWITCH



DRIVE
MOTOR

DRIVE MOTOR
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A



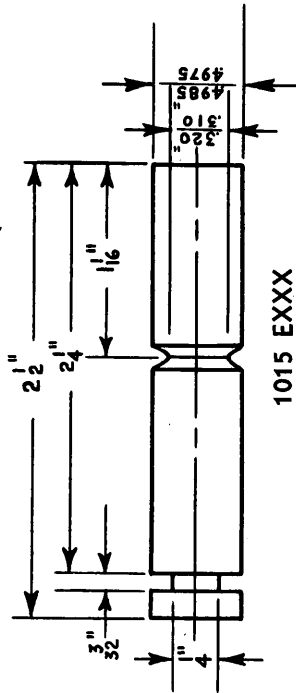
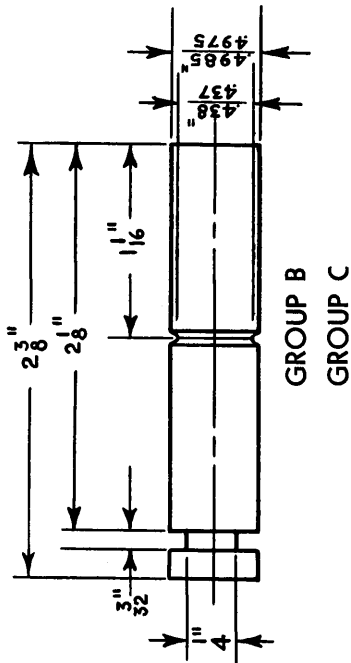
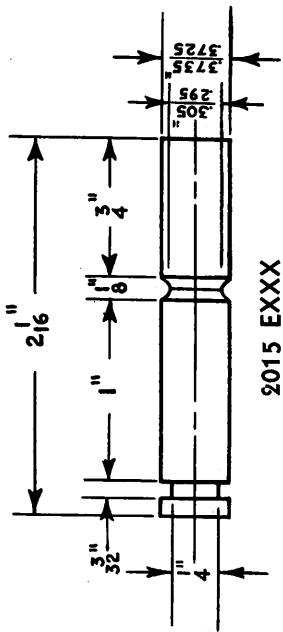
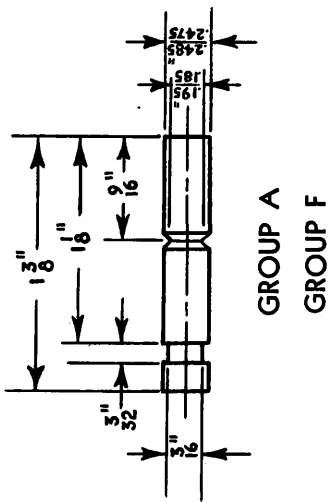
WIRING DIAGRAM

FARNHAM FORMING ROLL

Designed by

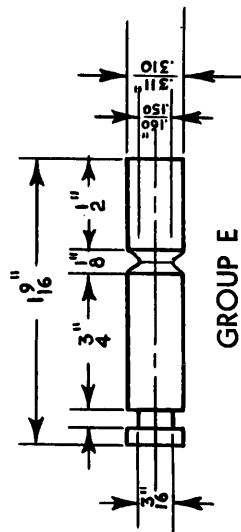
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 13239-C

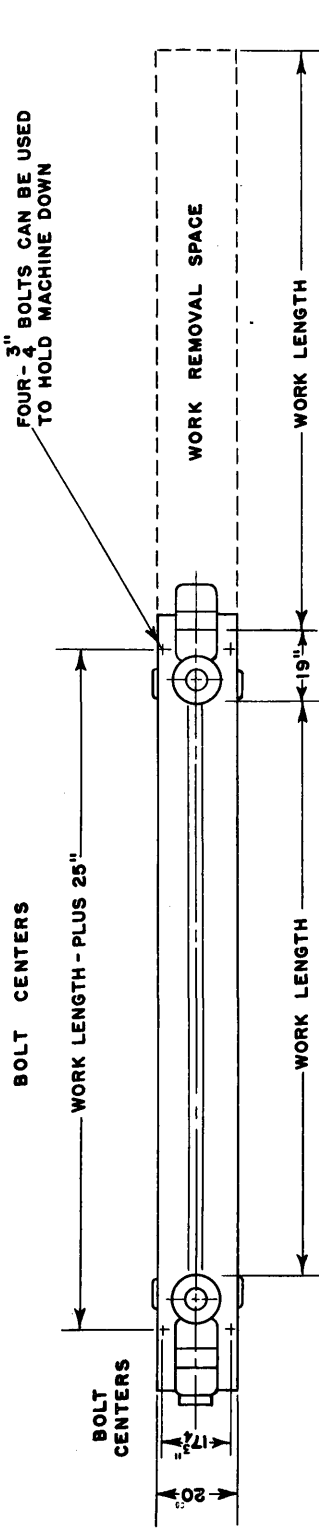


MATL.-DRILL ROD

"V" GROOVE WITH ROUND POINT GIVES
A CLEAN BREAK THAT MAKES THE
BROKEN PIN EASY TO REMOVE...



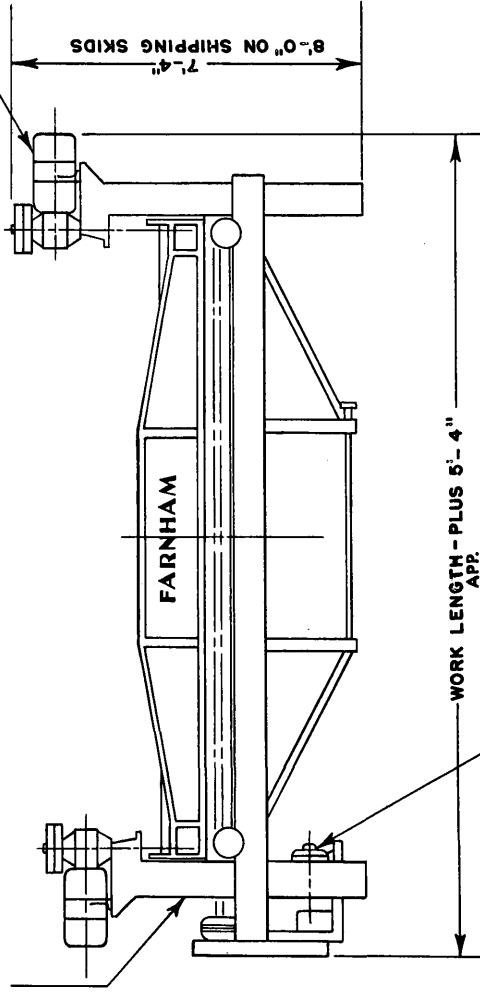
S H E A R P I N S
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY
PART NUMBER 13223-A



FOUR- $\frac{3}{4}$ " BOLTS CAN BE USED TO HOLD MACHINE DOWN

TWO-TWO SPEED SCREW DOWN MOTORS
1 H.P. AND 2 H.P.
SINGLE VOLTAGE ONLY

NO DISCONNECT SWITCH FURNISHED-
MAKE ELECTRIC CONNECTION INSIDE
OF DOOR.



LEAVE CONVENIENT SPACE IN FRONT AND
BACK OF MACHINE FOR INSERTING WORK.

MODEL SIZE	WORK LENGTH	DRIVE MOTOR	SHIPPING WEIGHT
658-E	6'-1"	2 AND 4 H.P.	3,420
858-E	8'-1"	2 AND 4 H.P.	3,720
1058-E	10'-0"	2 AND 4 H.P.	4,000
1258-E	12'-0"	2 AND 4 H.P.	4,325
1558-E	15'-0"	2 AND 4 H.P.	4,950
610-E	6'-1"	2 AND 3 H.P.	3,495
810-E	8'-1"	2 AND 3 H.P.	3,795
1010-E	10'-0"	2 AND 3 H.P.	4,100
1210-E	12'-0"	2 AND 3 H.P.	4,410
1510-E	15'-0"	2 AND 3 H.P.	5,000
1810-E	18'-0"	2 AND 3 H.P.	5,400
610-EX	6'-1"	2 AND 3 H.P.	3,495
810-EX	8'-1"	2 AND 3 H.P.	3,795

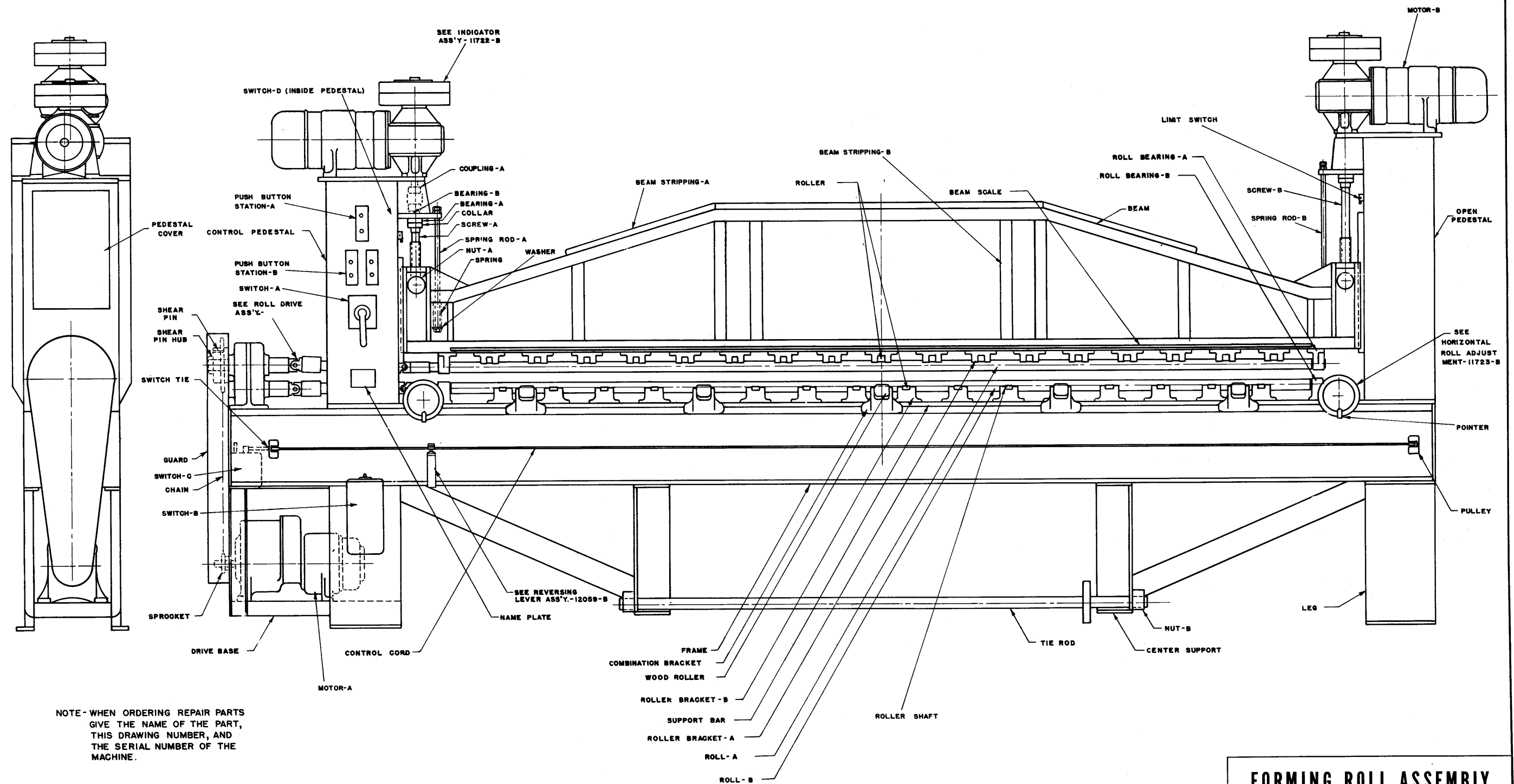
INSTALLATION PLAN FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12601-B

GROUP B



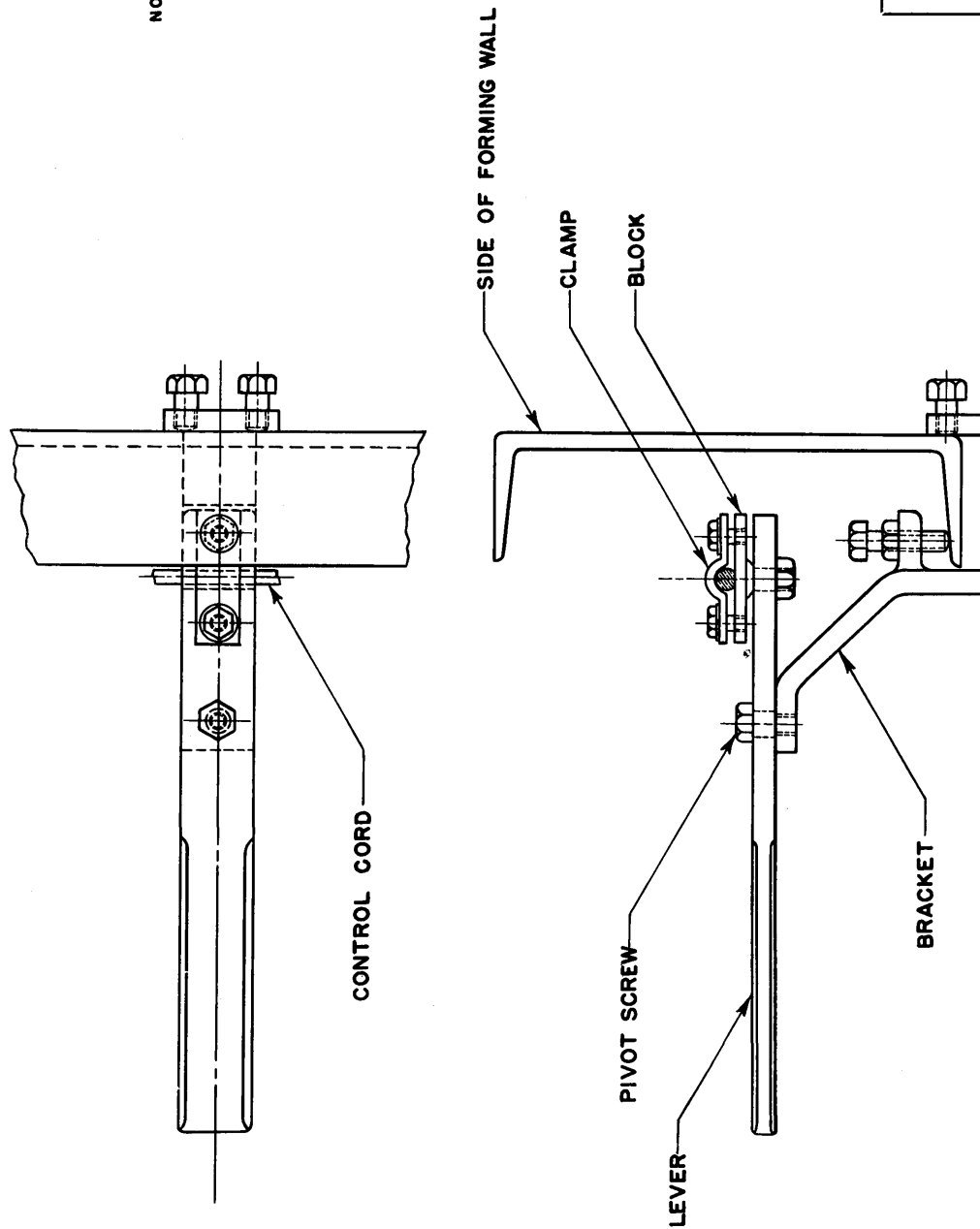
NOTE-WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

NOTE-NOT TO SCALE

FORMING ROLL ASSEMBLY
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 11980-D

NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED BY
THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

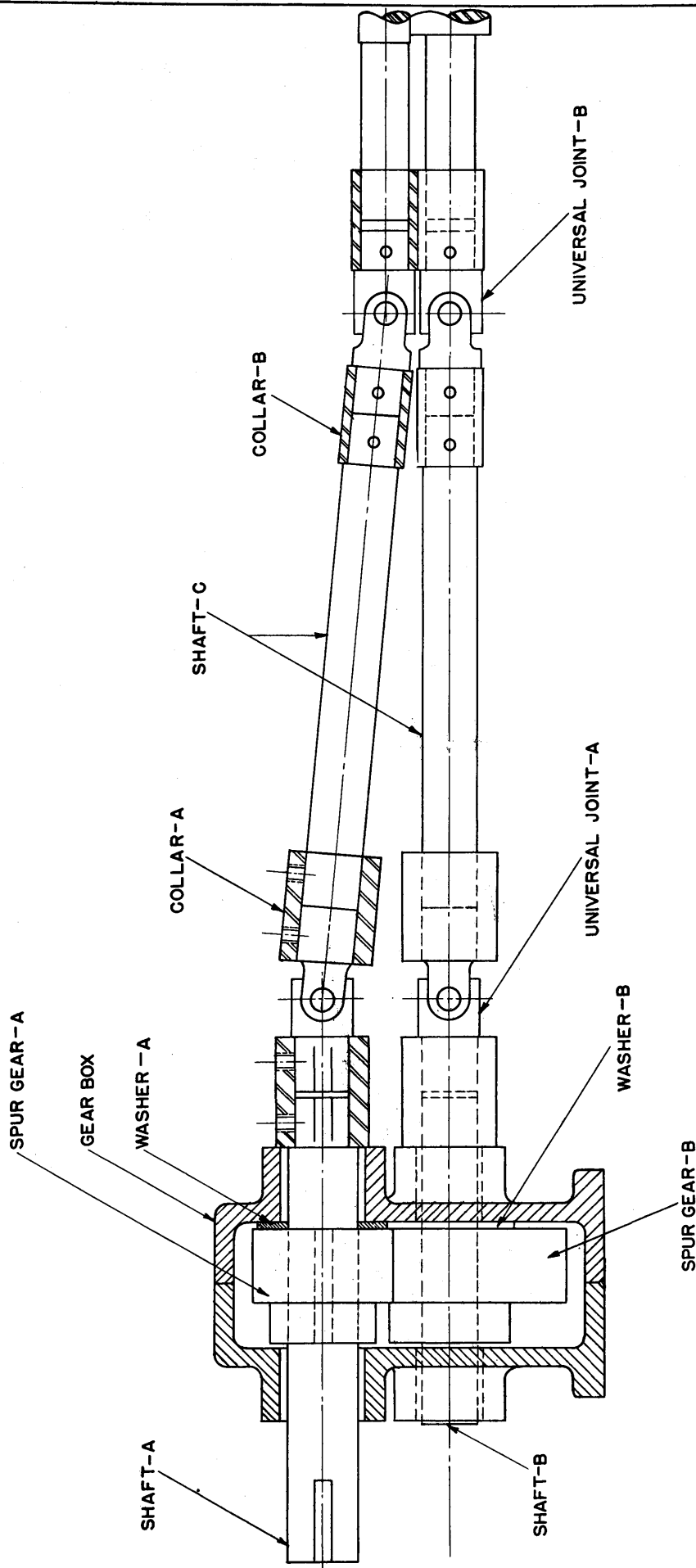


REVERSING LEVER ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12059-B



ROLL DRIVE ASSEMBLY

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

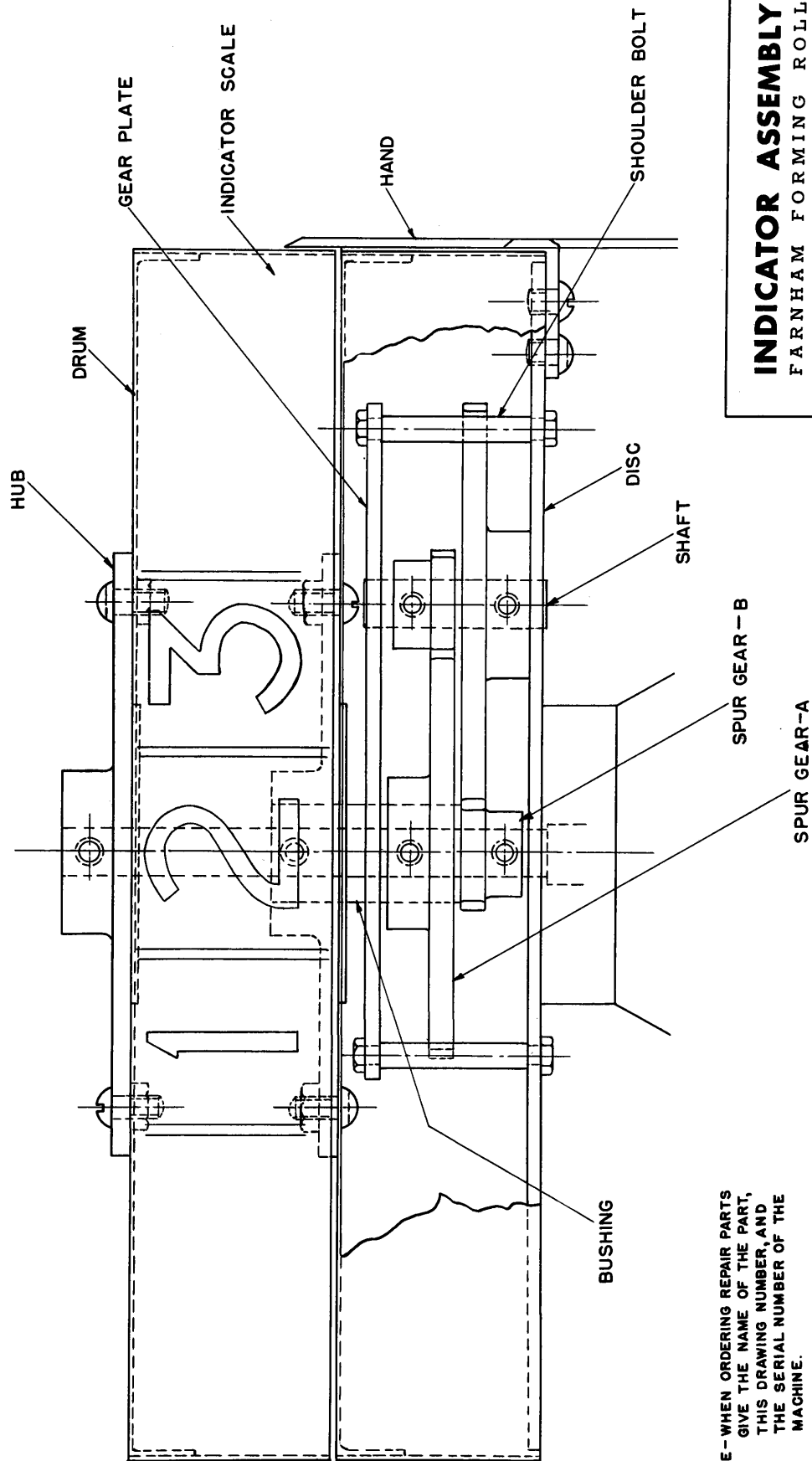
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11721-B

NOTE - NOT TO SCALE

NOTE- WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.



NOTE - WHEN ORDERING REPAIR PARTS
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MACHINE.

WHEN COMPLETE ASSEMBLY IS
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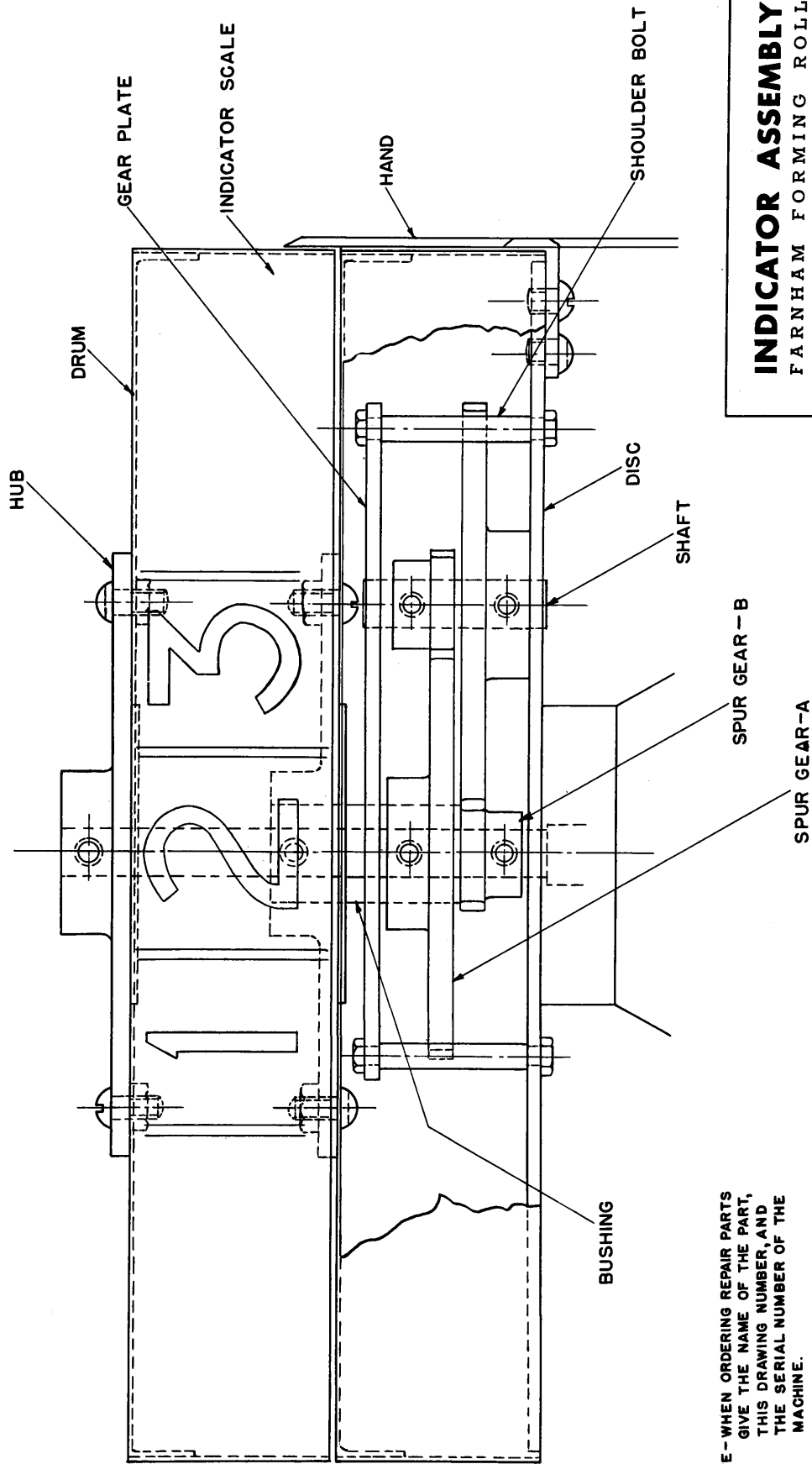
NOTE - NOT TO SCALE

INDICATOR ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11722-B



NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

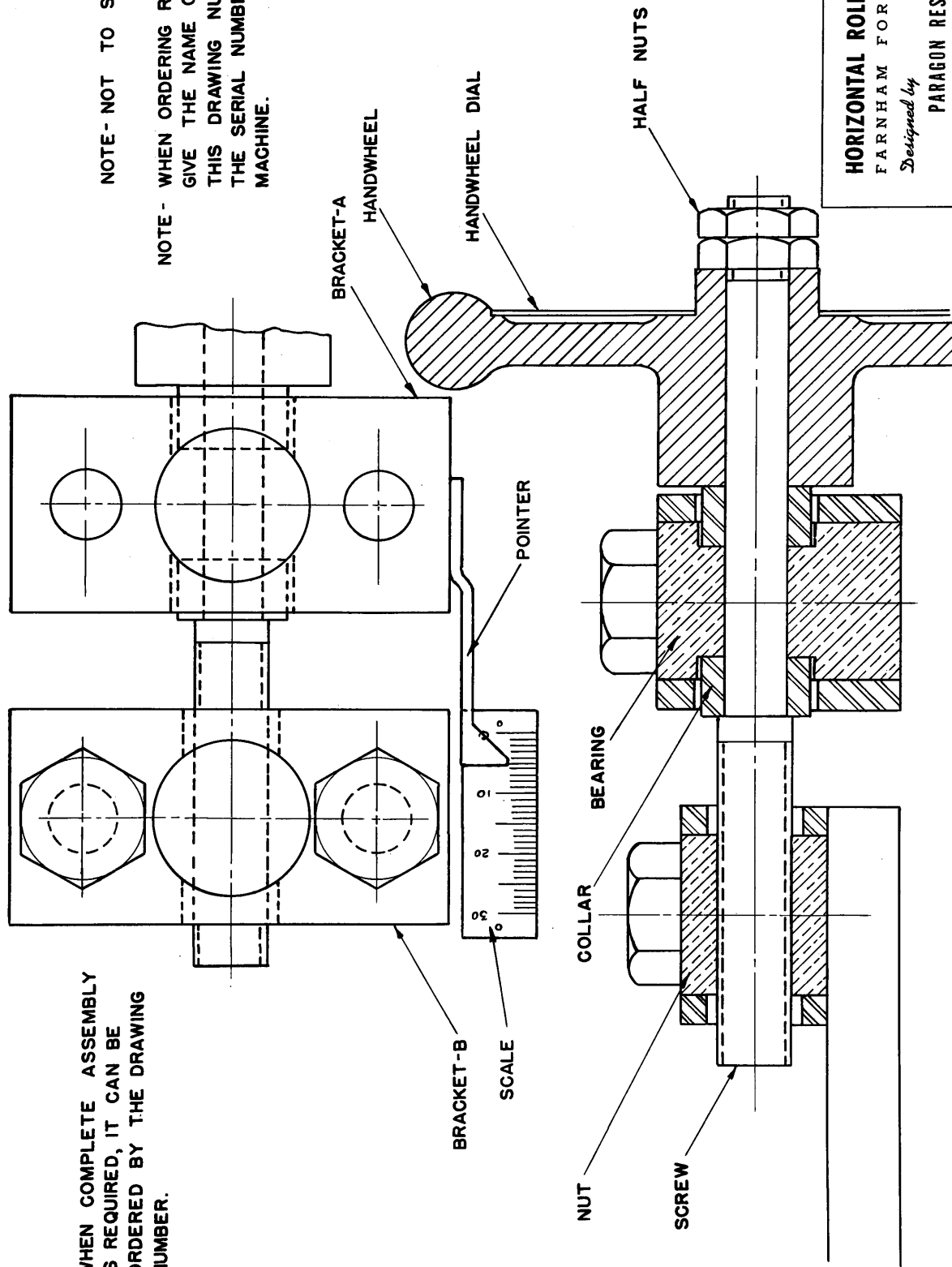
INDICATOR ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11722-B

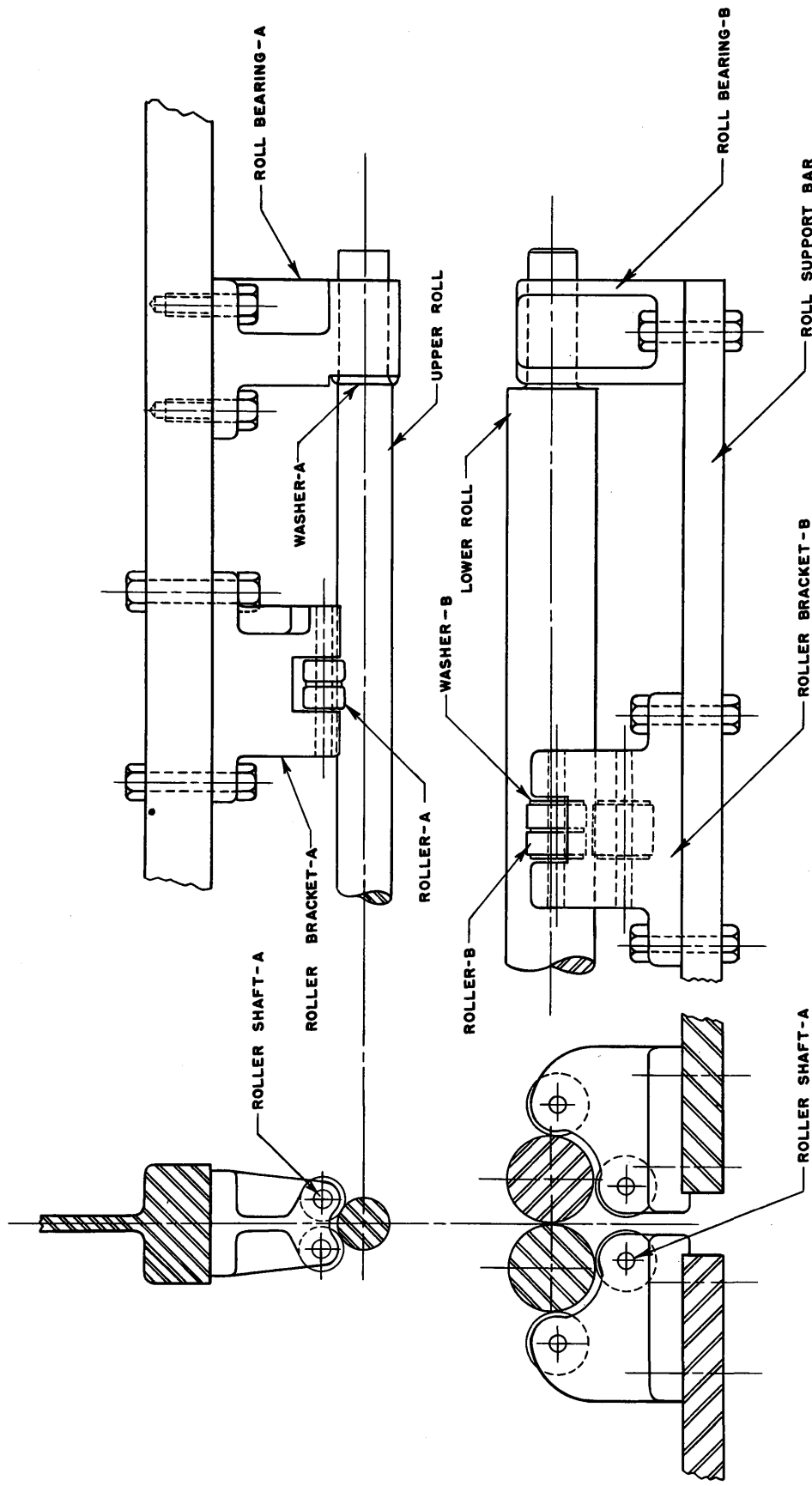
NOTE - WHEN COMPLETE ASSEMBLY
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ORDERED BY THE DRAWING
NUMBER.



NOTE- NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

HORIZONTAL ROLL ADJUSTMENT
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

SUPPORT BRACKETS

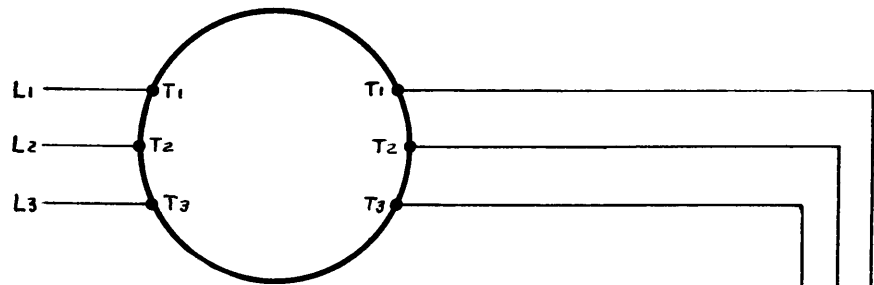
FARNHAM FORMING ROLL

Designed by

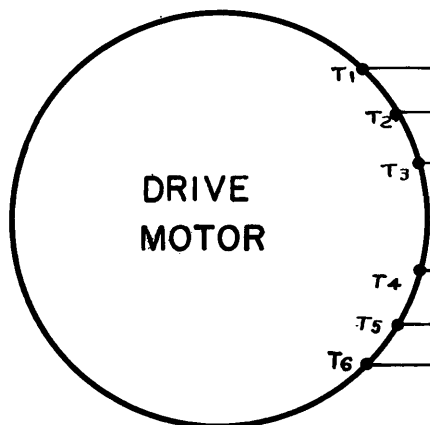
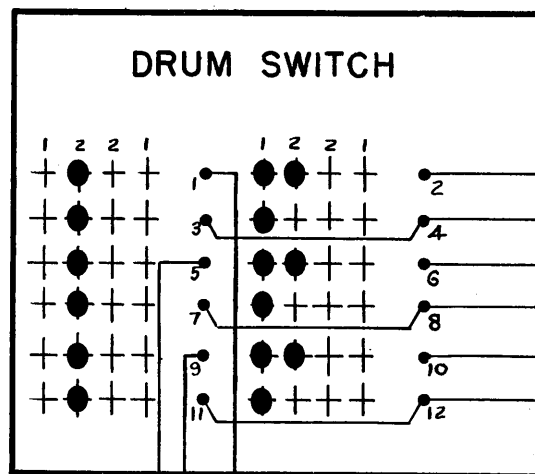
PARAGON RESEARCH, INC. for

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



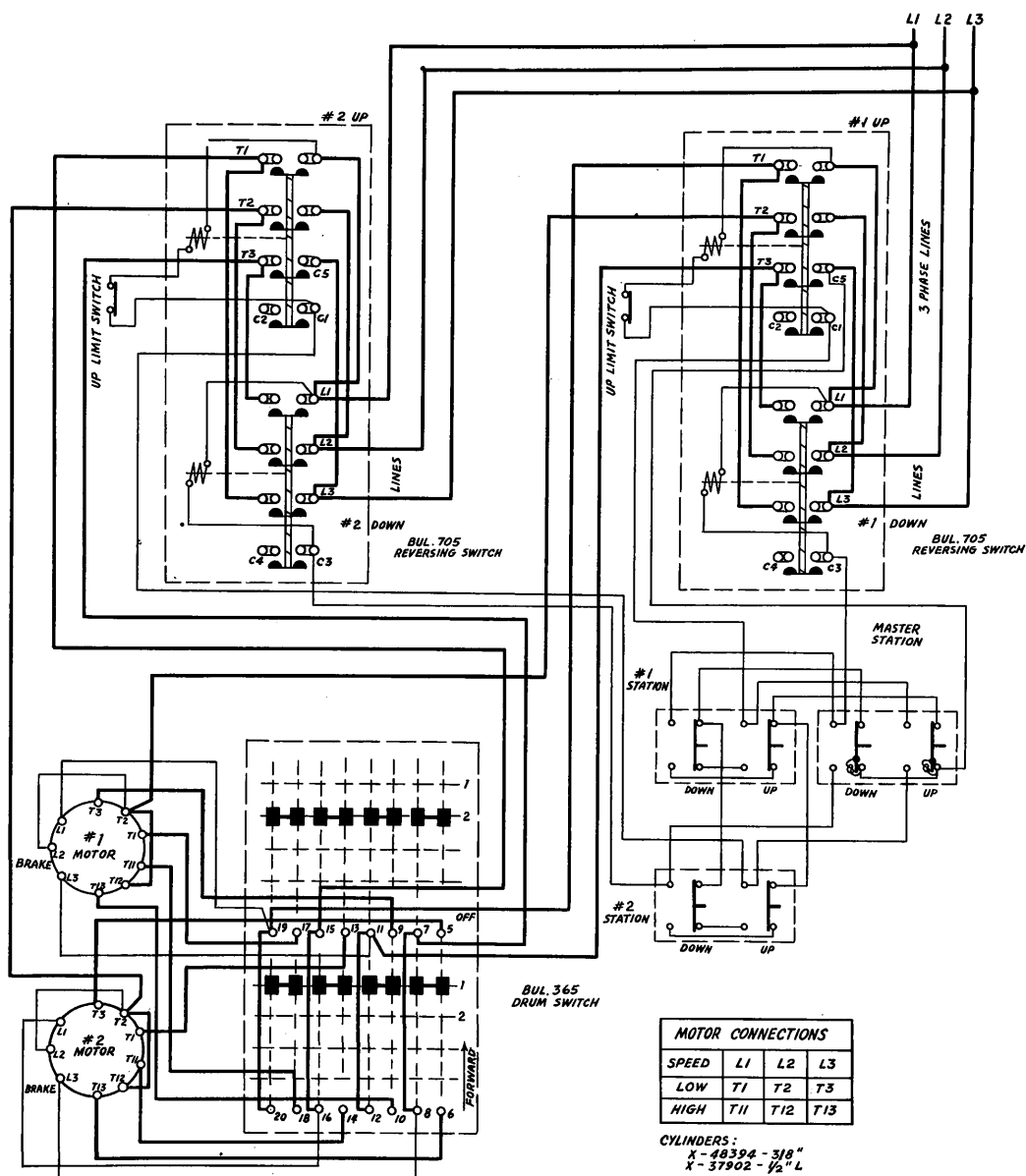
REVERSING
SWITCH



DRIVE
MOTOR

DRIVE MOTOR
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A



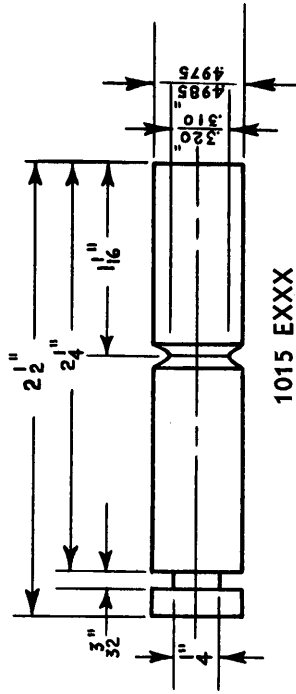
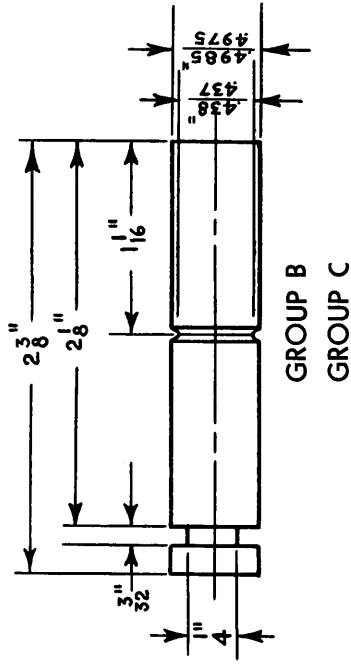
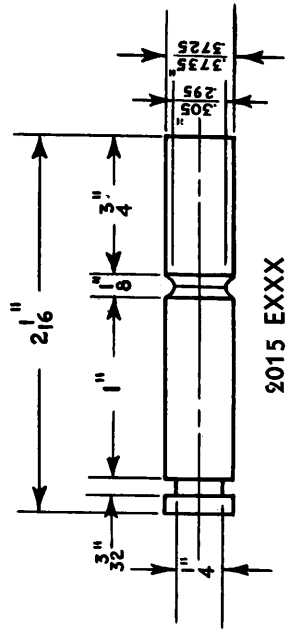
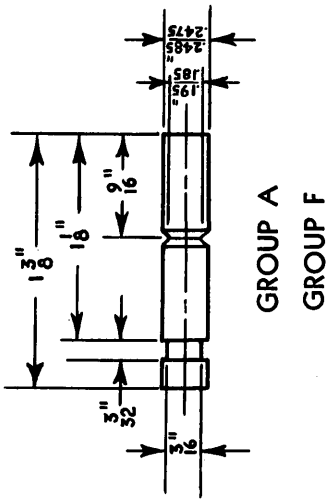
WIRING DIAGRAM

FARNHAM FORMING ROLL

Designed by

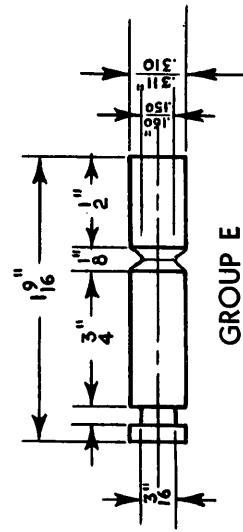
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 13239-C

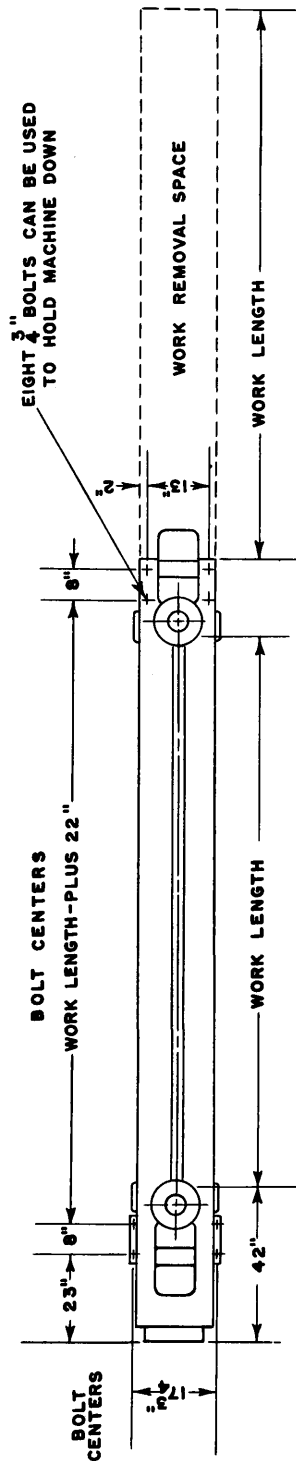


MATL.-DRILL ROD

"V" GROOVE WITH ROUND POINT GIVES
A CLEAN BREAK THAT MAKES THE
BROKEN PIN EASY TO REMOVE...

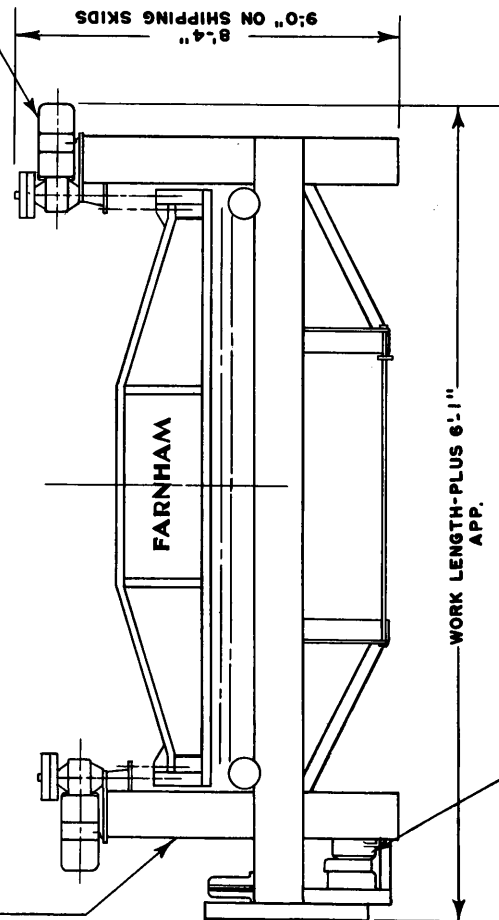


S H E A R P I N S
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY
PART NUMBER 13223-A



NO DISCONNECT SWITCH FURNISHED
MAKE ELECTRIC POWER CONNECTION
INSIDE OF DOOR

TWO-TWO SPEED SCREW DOWN
MOTORS - 1/2 H.P. AND 3/4 H.P.
SINGLE VOLTAGE ONLY



MODEL SIZE	WORK LENGTH	SHIPPING WEIGHT
610-EXX	6'-0"	4,800
810-EXX	8'-0"	5,200
1010-EX	10'-0"	5,600
1210-EX	12'-0"	6,000

INSTALLATION PLAN

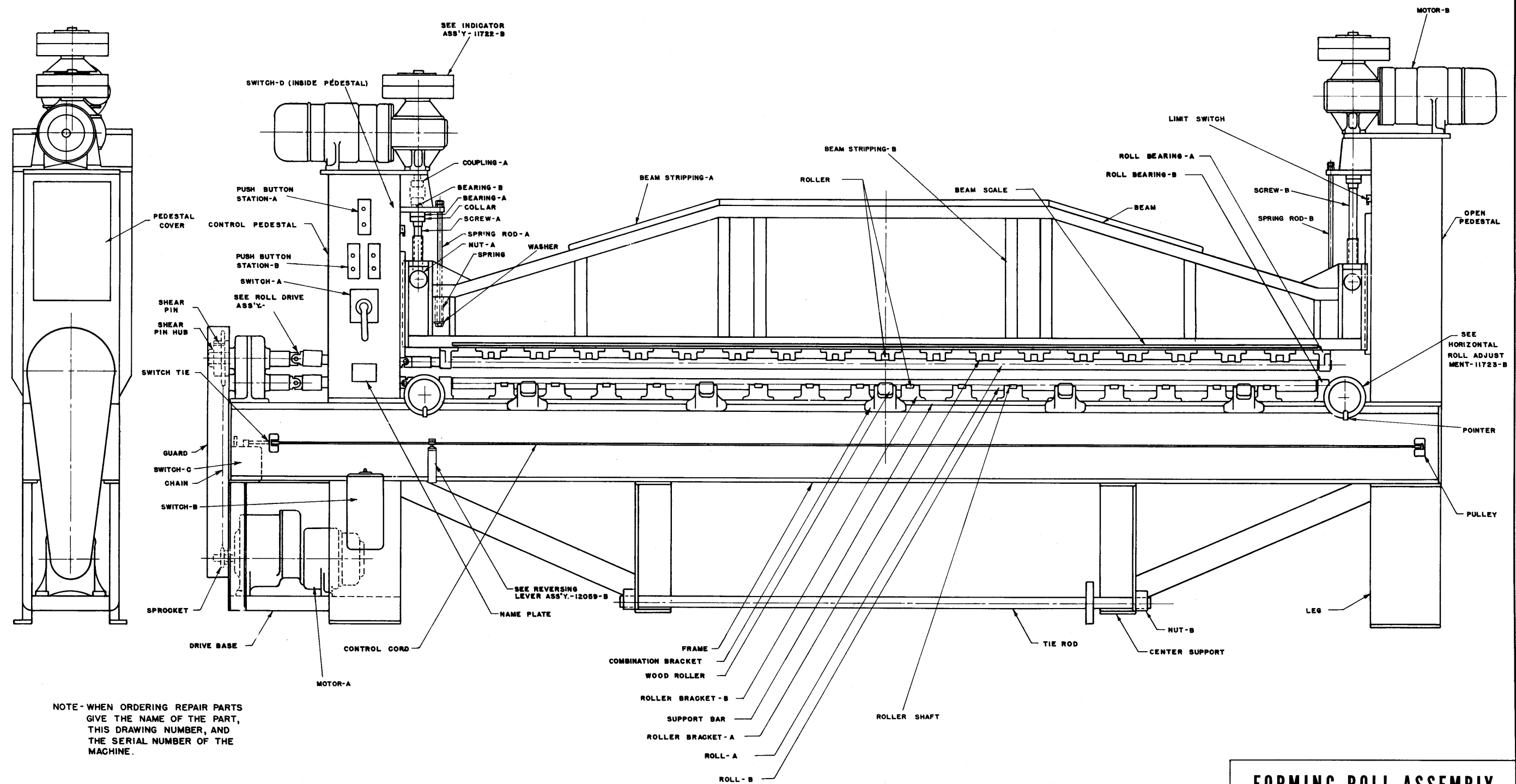
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12526-B

GROUP C



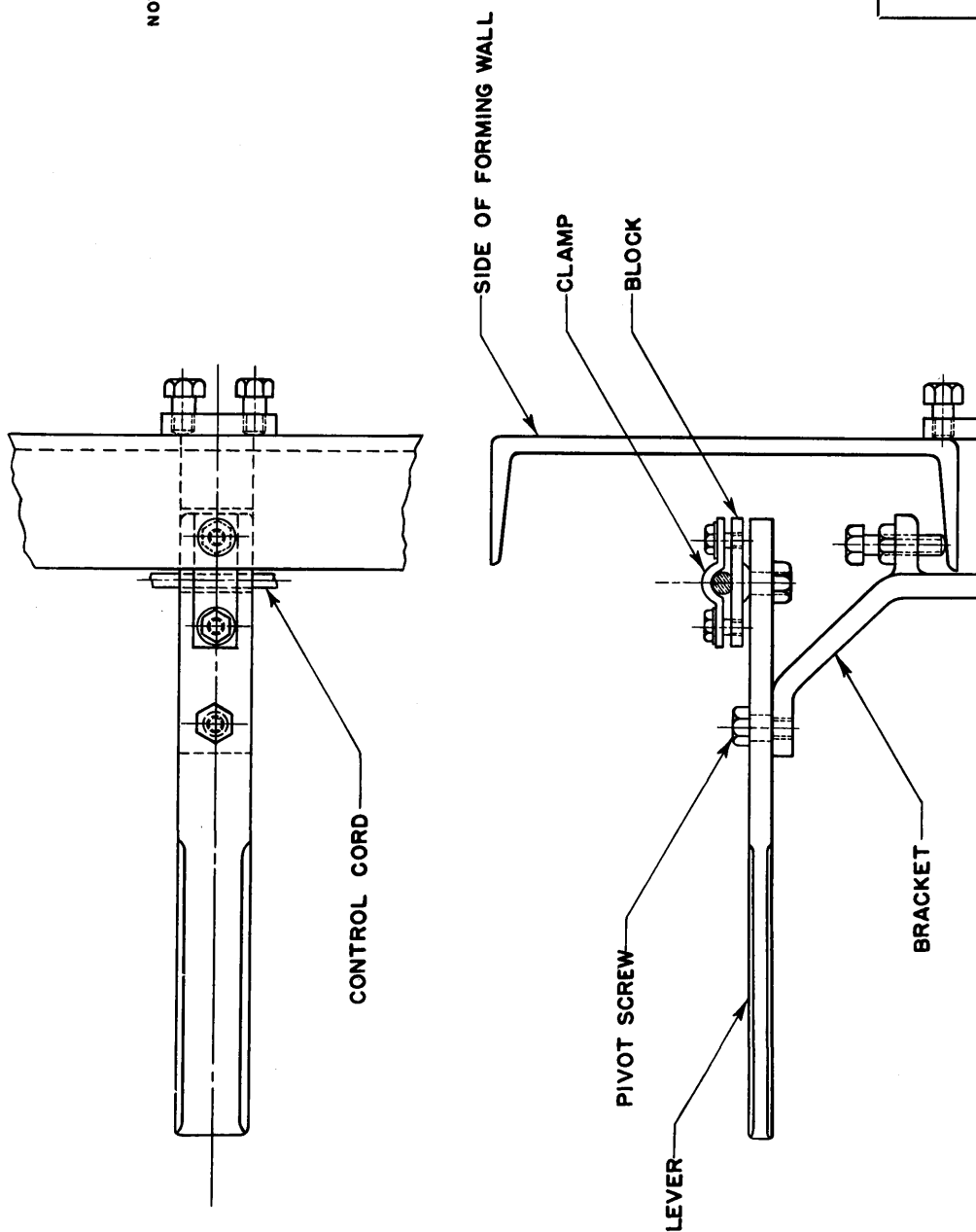
NOTE-WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE-NOT TO SCALE

FORMING ROLL ASSEMBLY
FARNHAM FORMING ROLL
 Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
 PART NUMBER 11980-D

NOTE - WHEN ORDERING REPAIR PARTS
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WHEN COMPLETE ASSEMBLY IS
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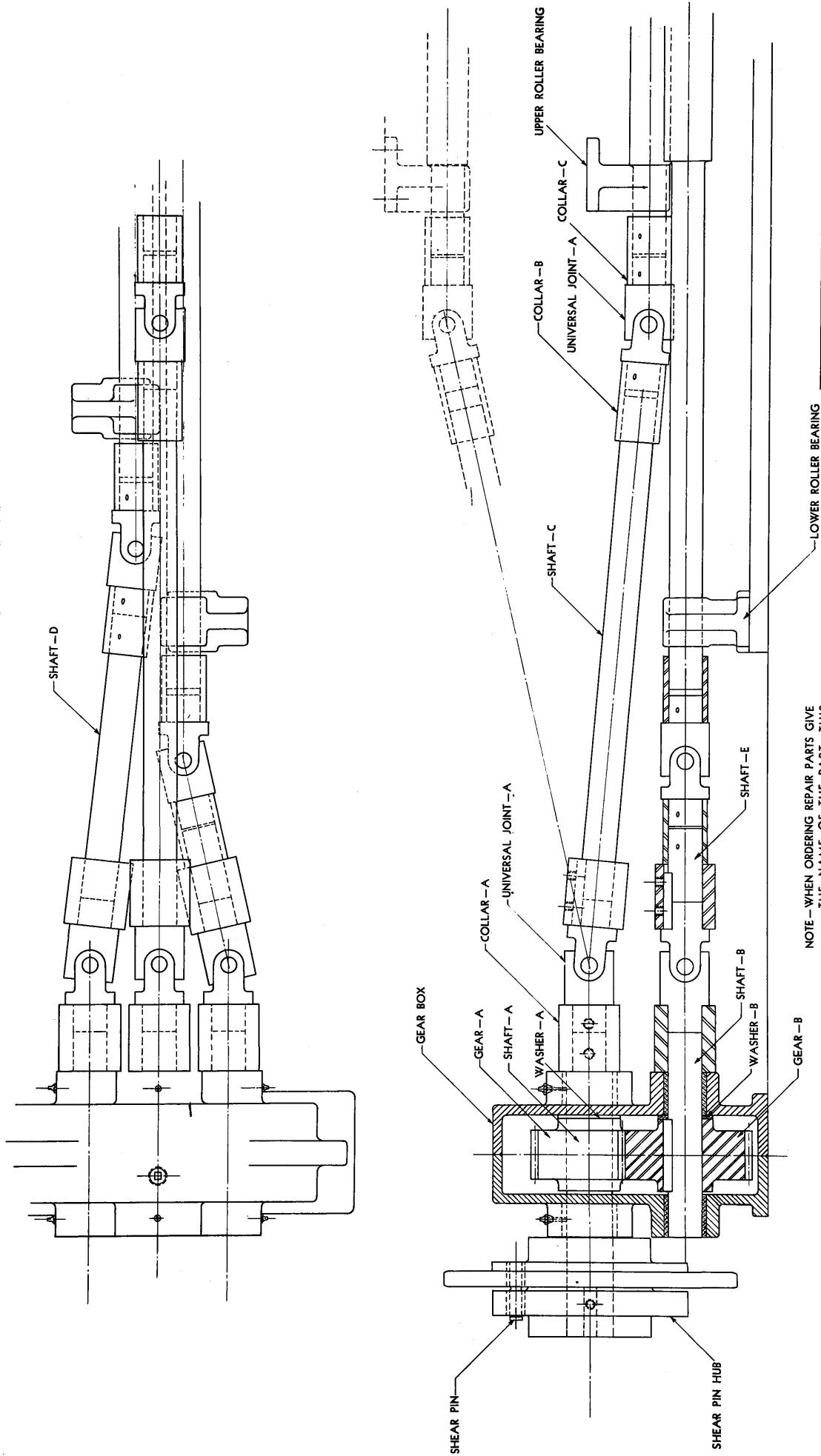


REVERSING LEVER ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12059-B

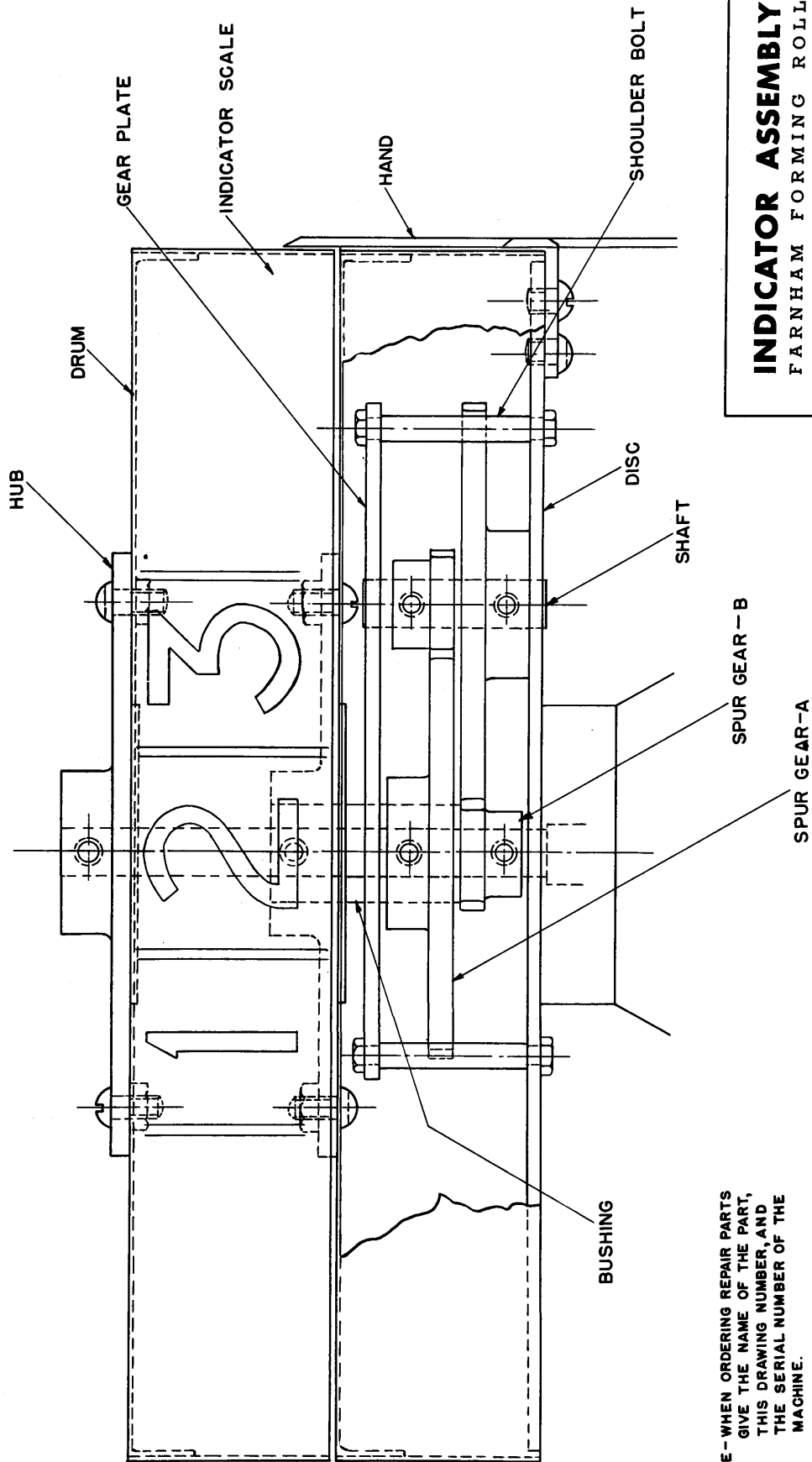


NOTE—WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.
WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

ROLL DRIVE ASSEMBLY **FARNHAM FORMING ROLL** *Designed by*

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12060-D

NOTE—NOT TO SCALE



NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
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THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

INDICATOR ASSEMBLY
FARNHAM FORMING ROLL

Designed by

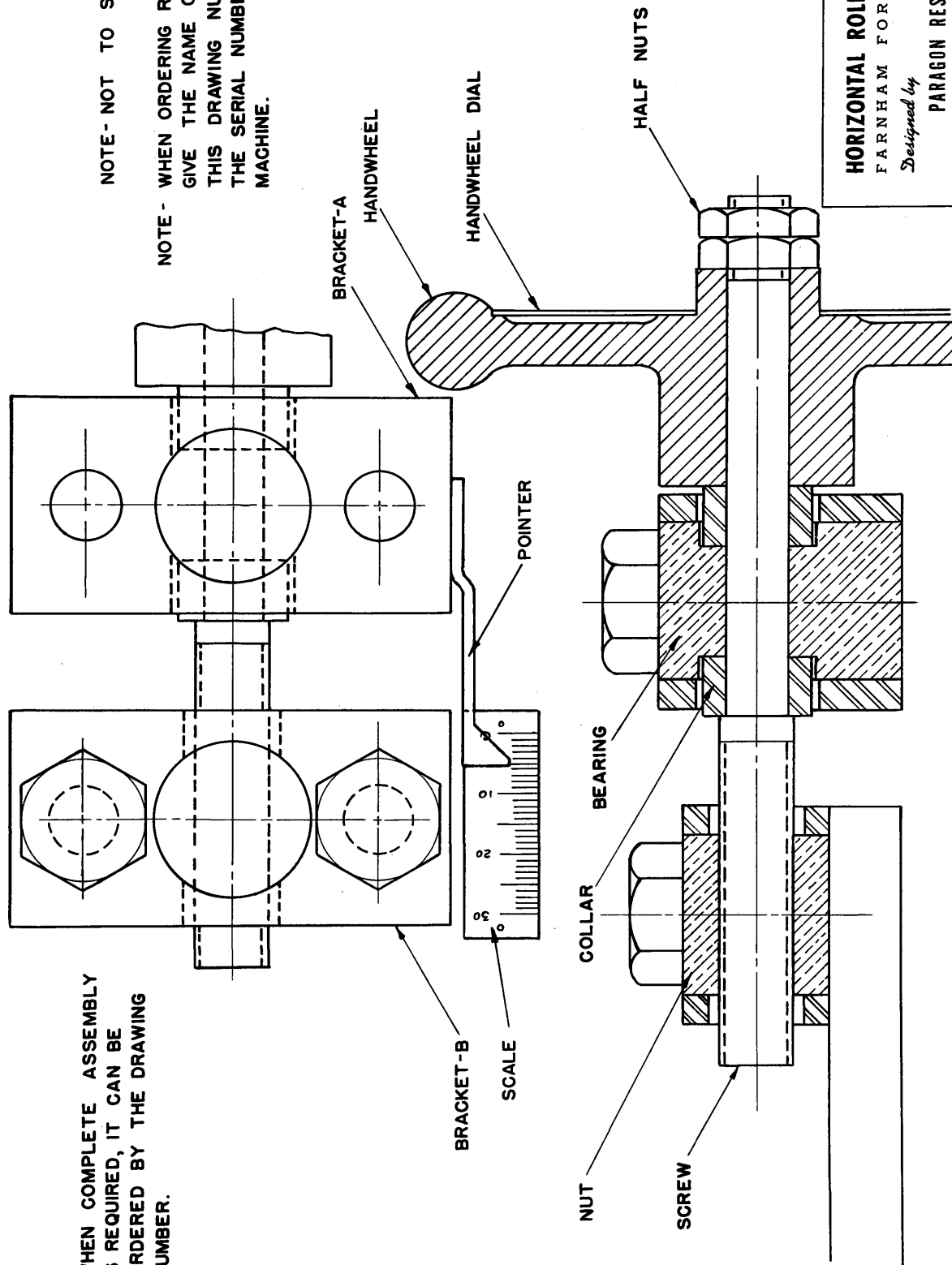
PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11722-B

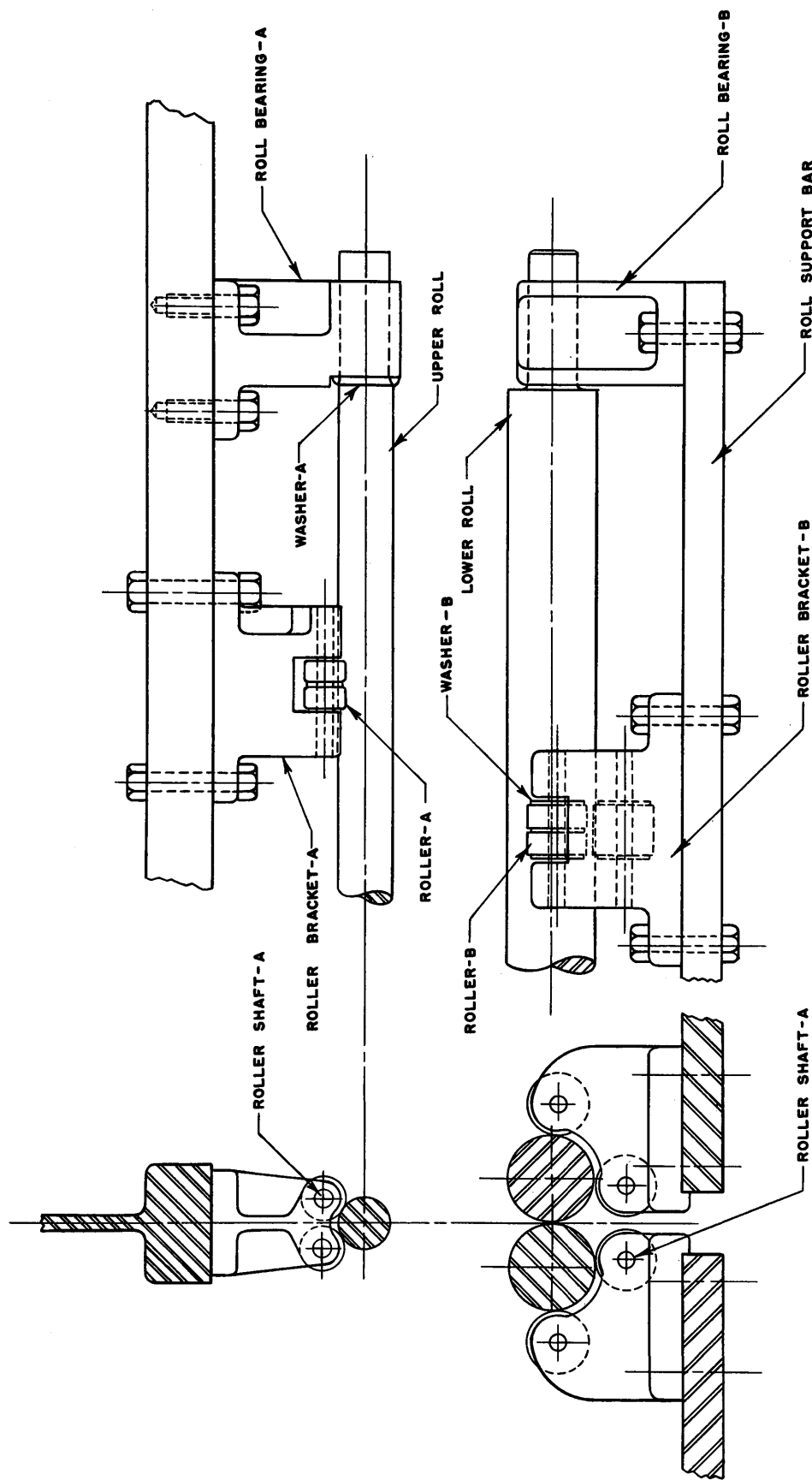
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NOTE- NOT TO SCALE

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MACHINE.



HORIZONTAL ROLL ADJUSTMENT
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING OF THE NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

SUPPORT BRACKETS

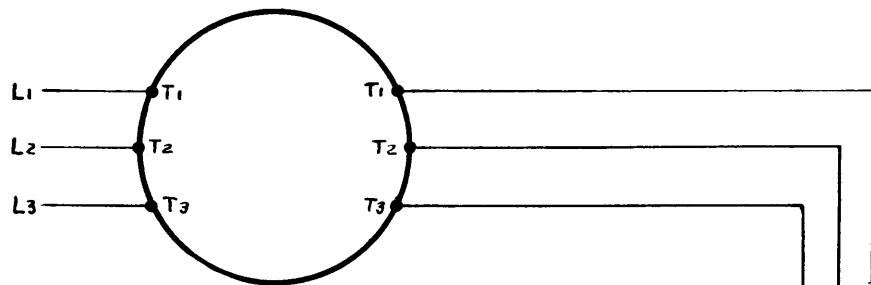
FARNHAM FORMING ROLL

Designed by

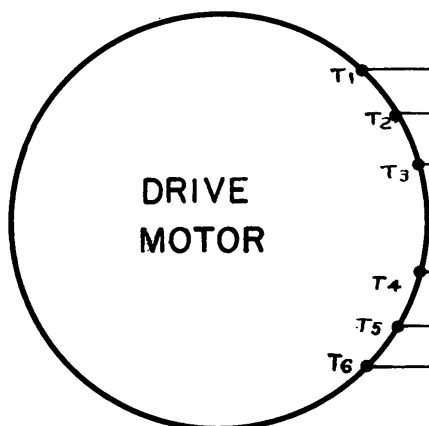
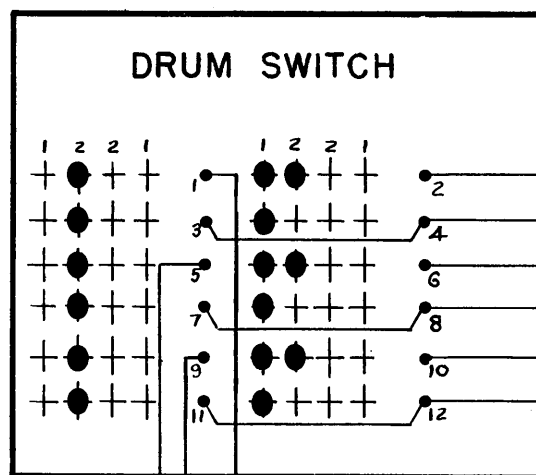
PARAGON RESEARCH, INC. for

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



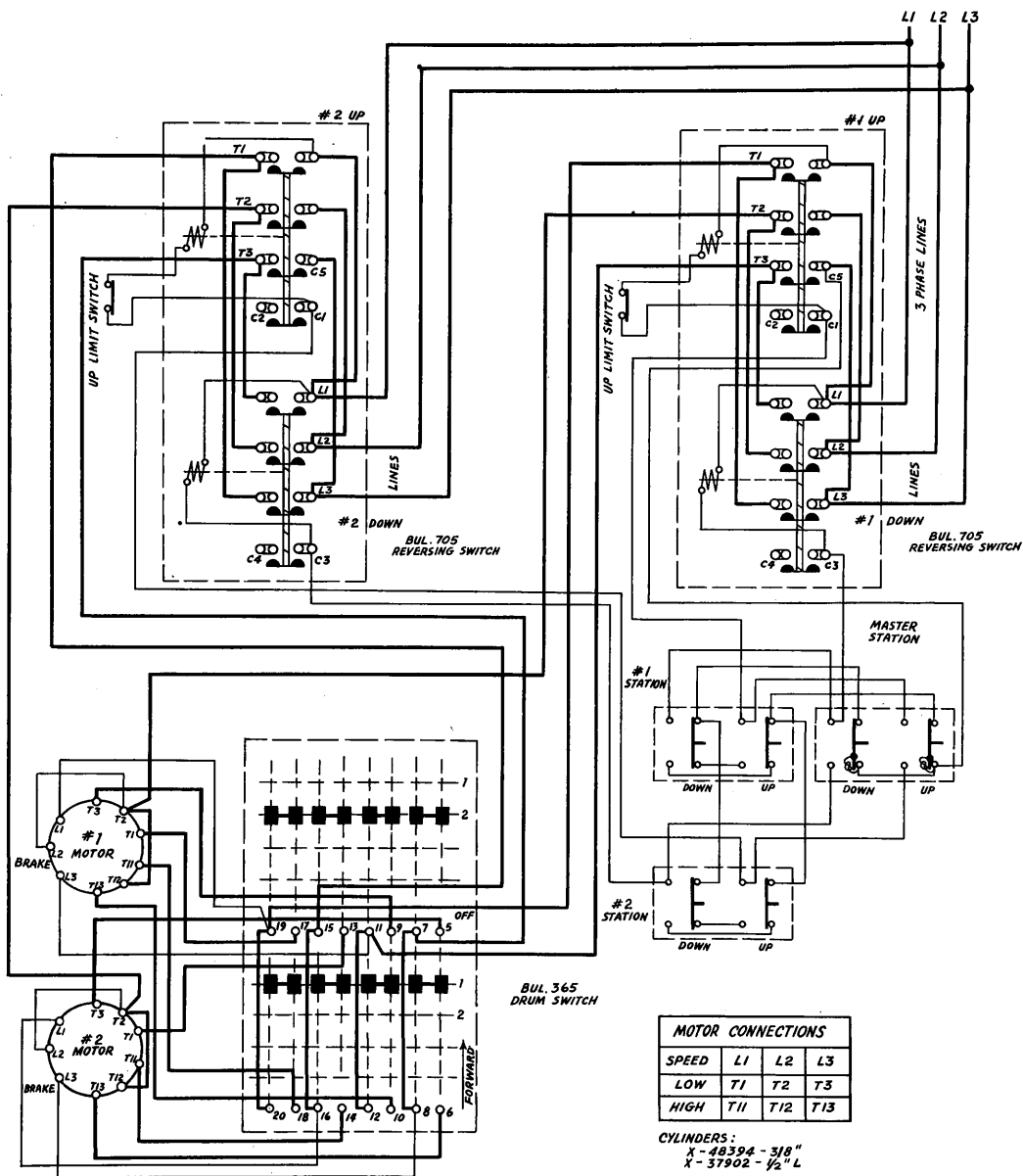
REVERSING
SWITCH



DRIVE
MOTOR

DRIVE MOTOR
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A



WIRING DIAGRAM

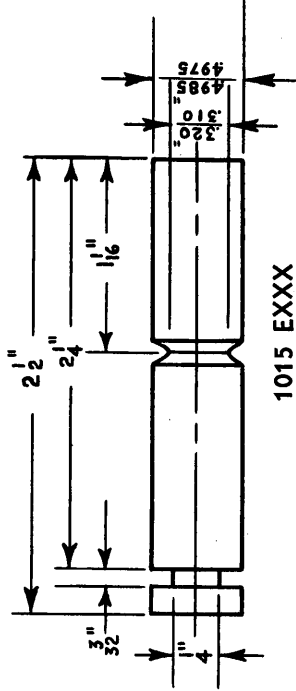
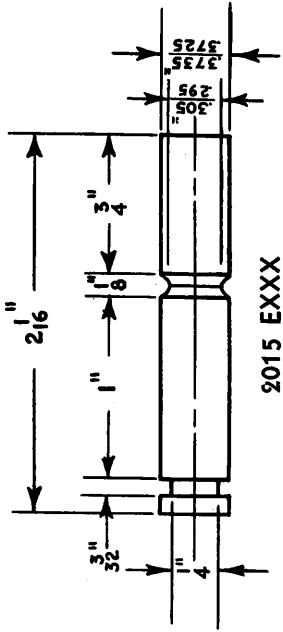
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

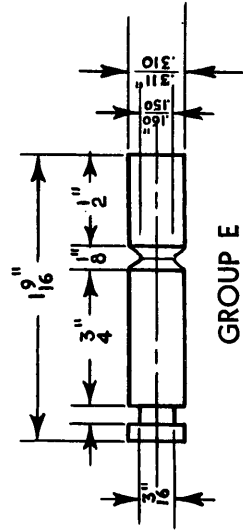
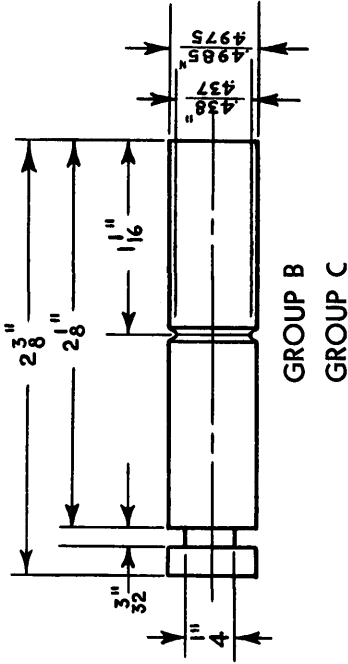
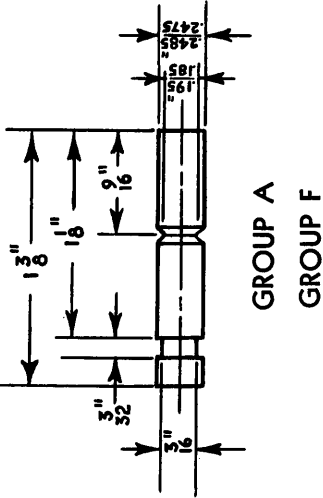
PART NUMBER 13239-C

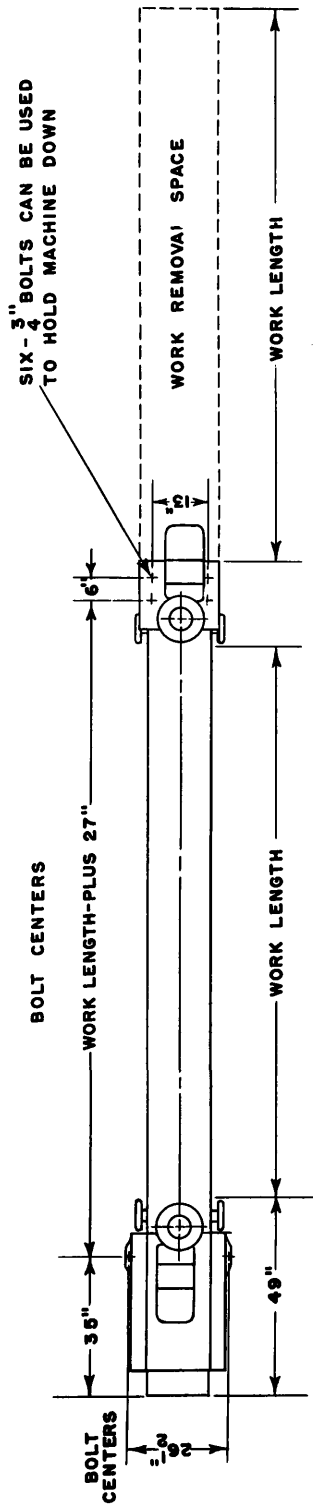
S H E A R P I N S
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 13223-A



MATL.-DRILL ROD

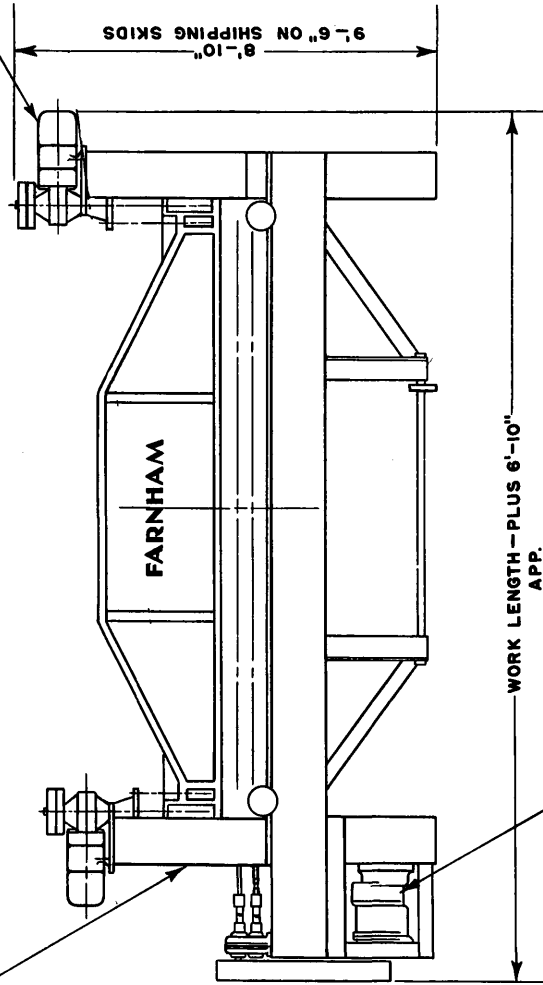
"V" GROOVE WITH ROUND POINT GIVES
 A CLEAN BREAK THAT MAKES THE
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NO DISCONNECT SWITCH FURNISHED
MAKE ELECTRIC POWER CONNECTION
INSIDE OF DOOR

TWO-TWO SPEED SCREW DOWN
MOTORS - 3 H.P. AND $\frac{3}{4}$ H.P.
SINGLE VOLTAGE ONLY



MODEL SIZE	WORK LENGTH	SHIPPING WEIGHT
1010-EXX	10'-0"	10,130
1210-EXX	12'-0"	10,550
1510-EX	15'-0"	11,180
2010-EX	20'-0"	12,230

INSTALLATION PLAN

FARNHAM FORMING ROLL

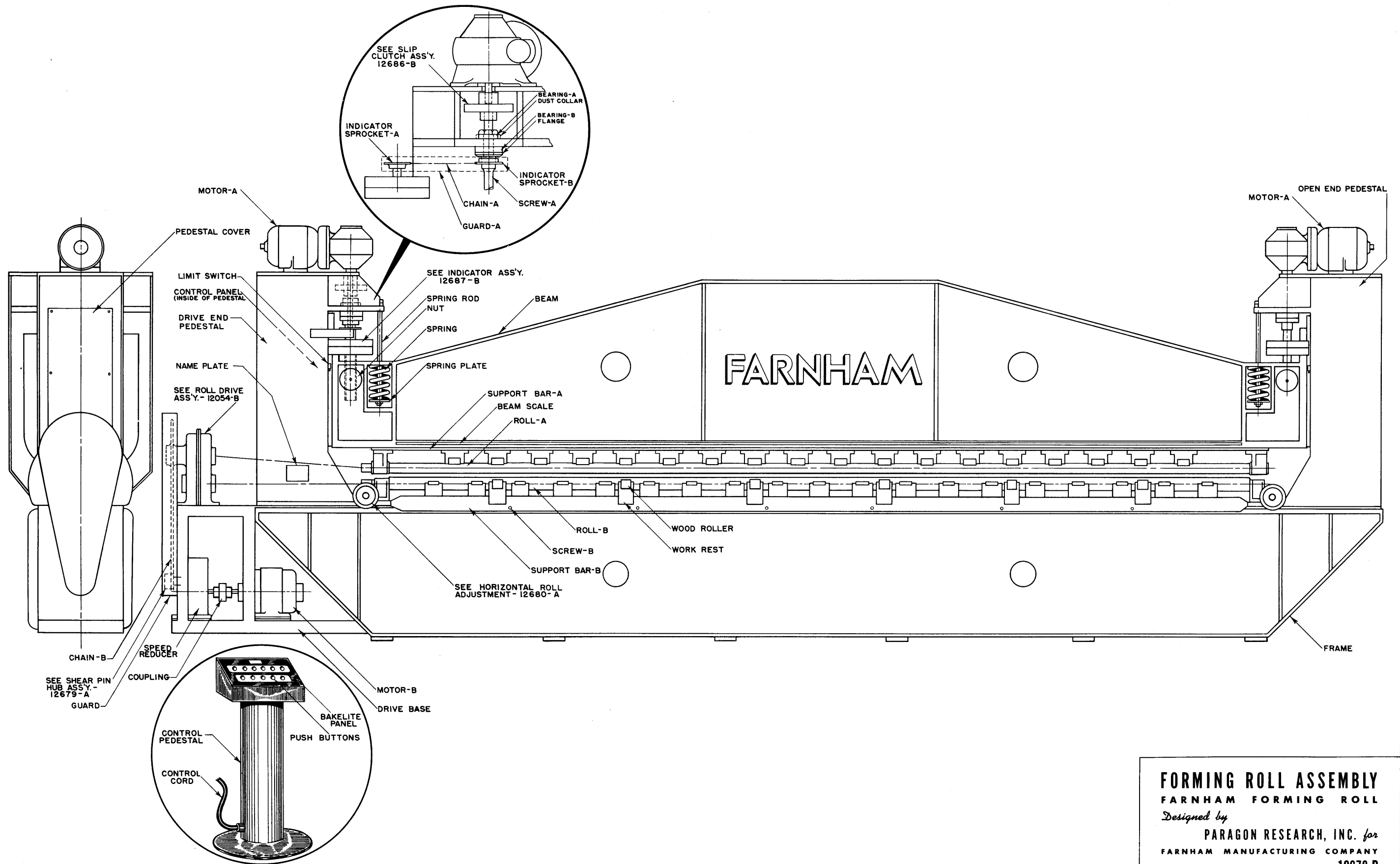
Designed by

PARAGON RESEARCH, INC. *for*

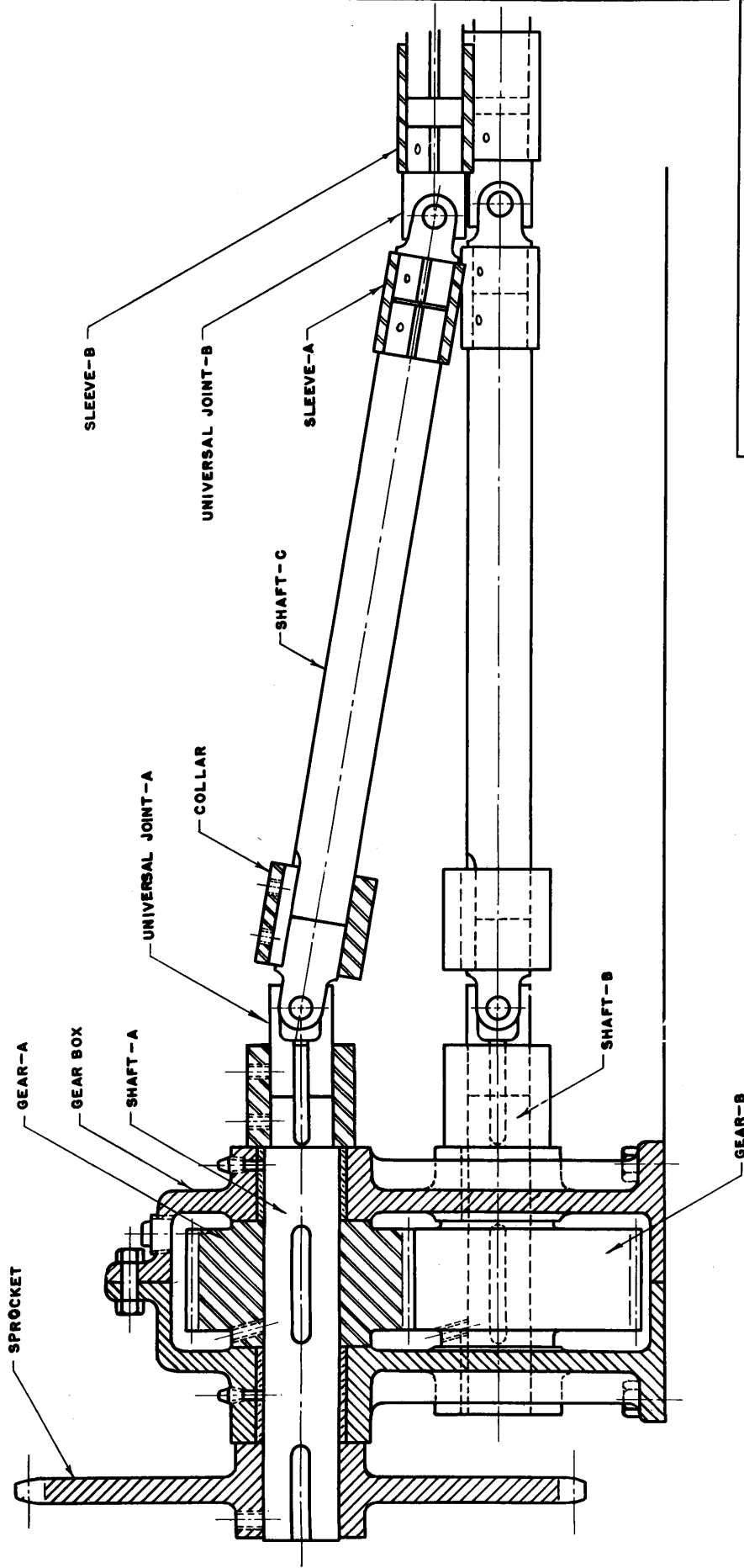
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12537-B

GROUP D



FORMING ROLL ASSEMBLY
 FARNHAM FORMING ROLL
Designed by
 PARAGON RESEARCH, INC. for
 FARNHAM MANUFACTURING COMPANY
 PART NUMBER 12678-D



NOTE—WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE—NOT TO SCALE

ROLL DRIVE ASSEMBLY

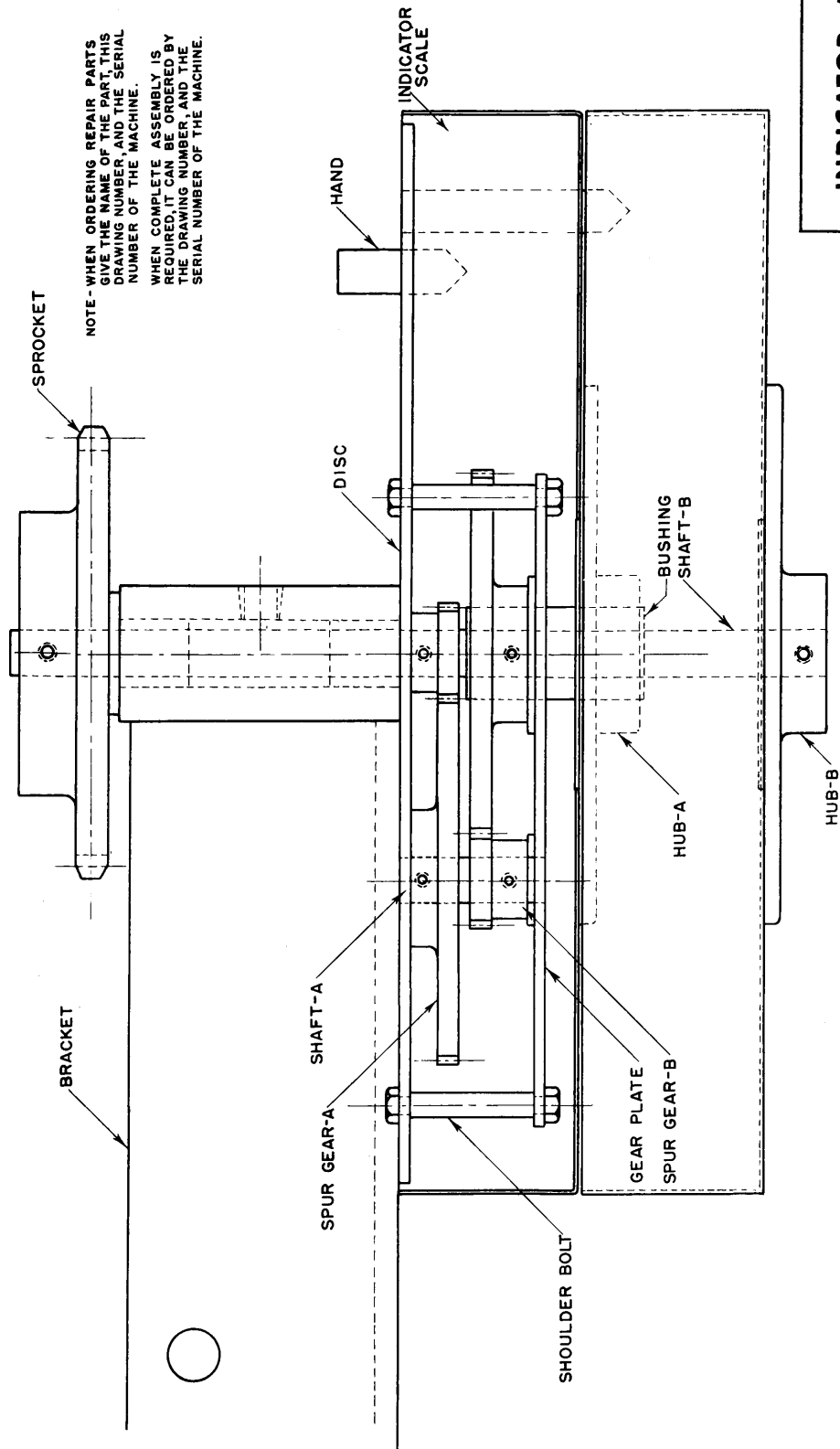
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12054-B



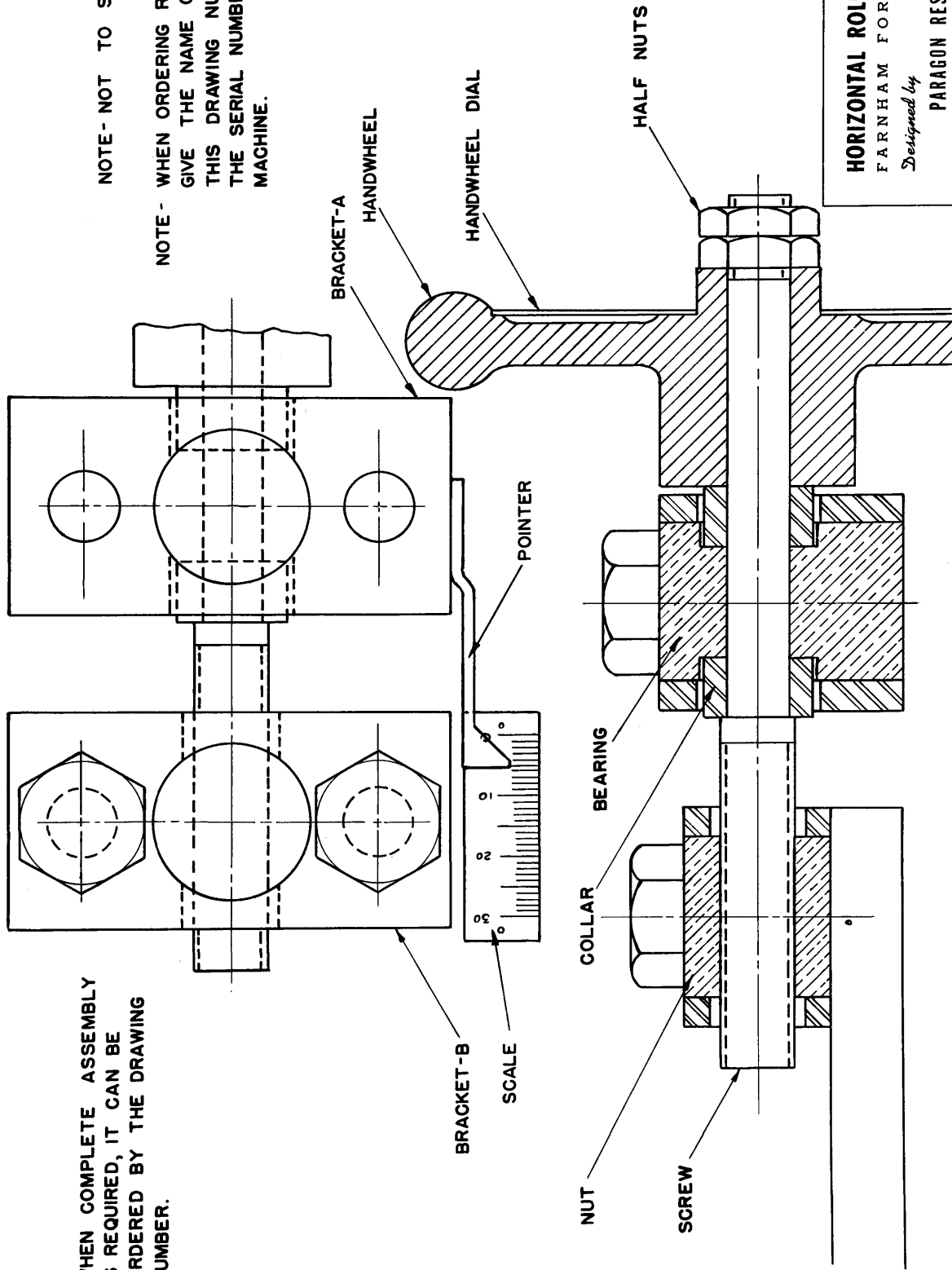
INDICATOR ASSEMBLY
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12687-B

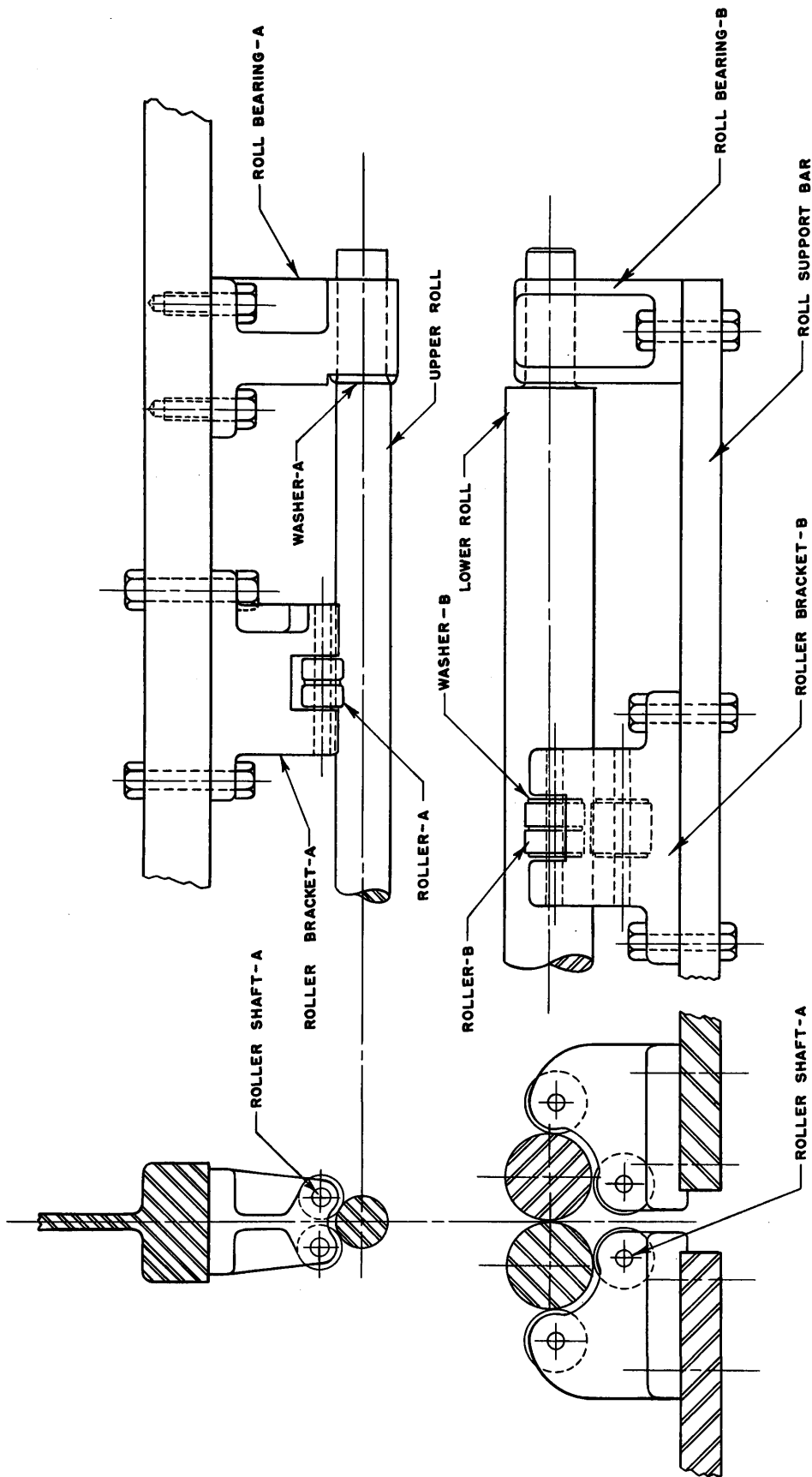
NOTE - WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.



HORIZONTAL ROLL ADJUSTMENT
 FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
 FARNHAM MANUFACTURING COMPANY
 PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

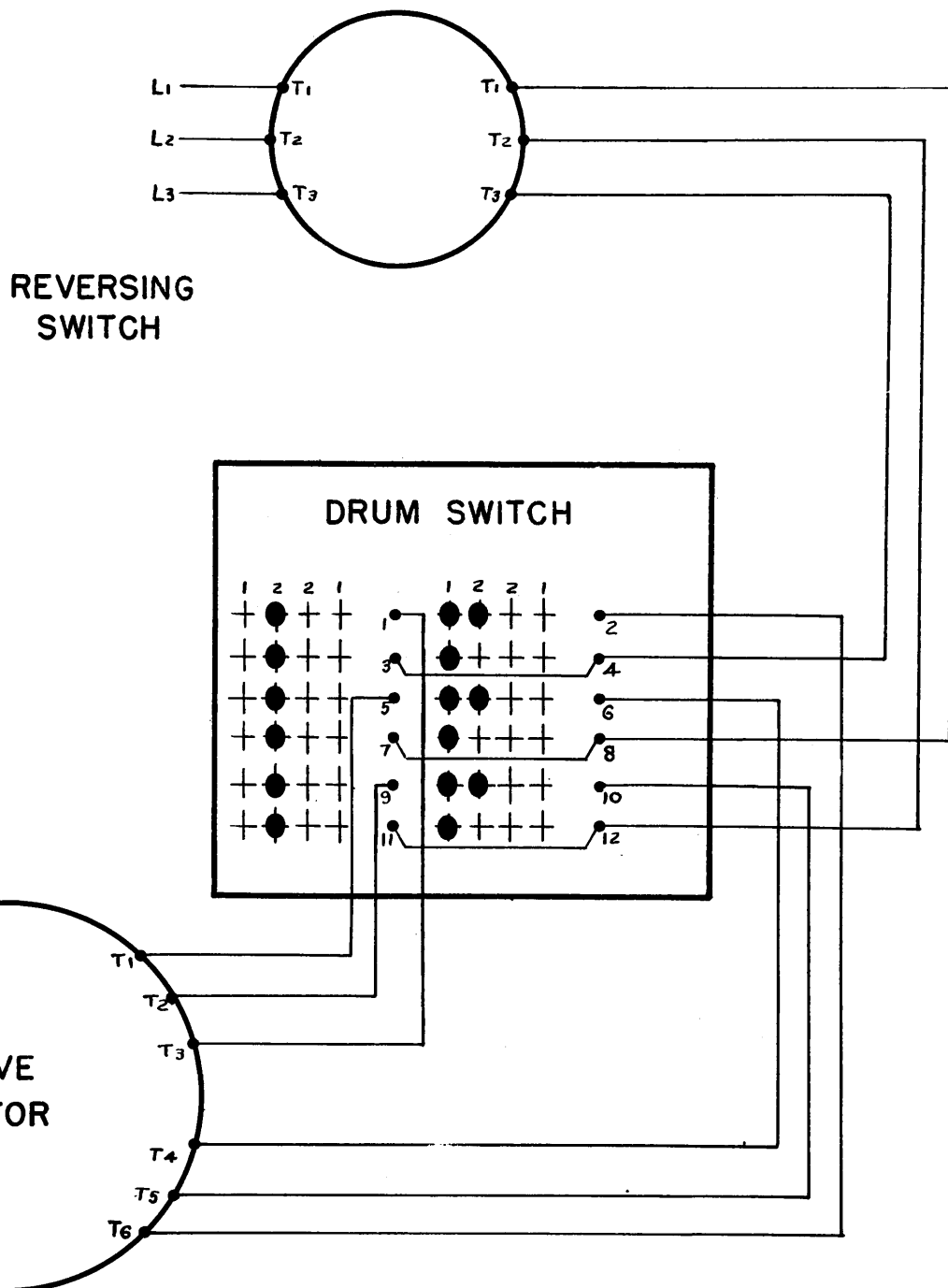
WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

SUPPORT BRACKETS
FARNHAM FORMING ROLL

Designed by

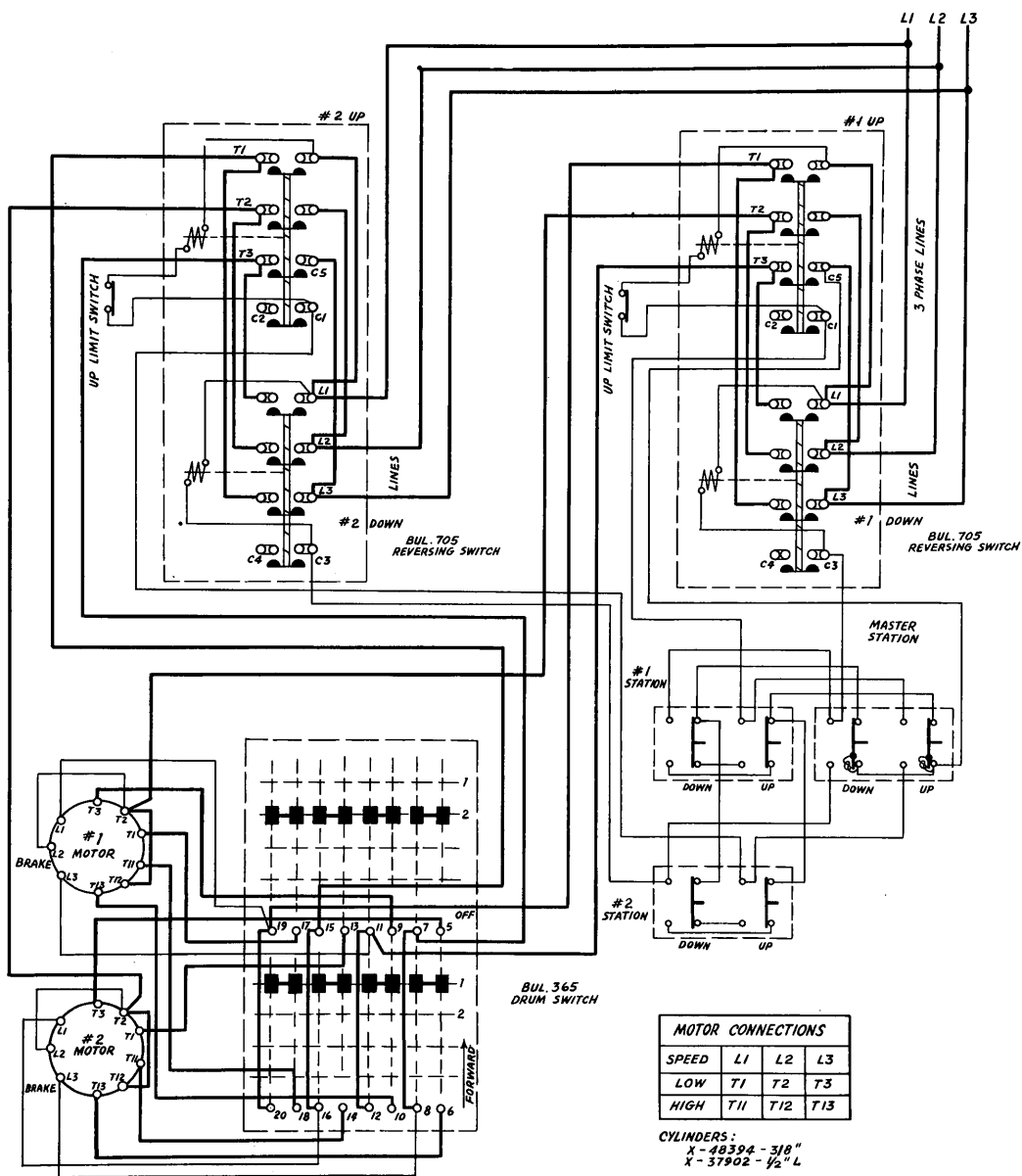
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



DRIVE MOTOR
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A

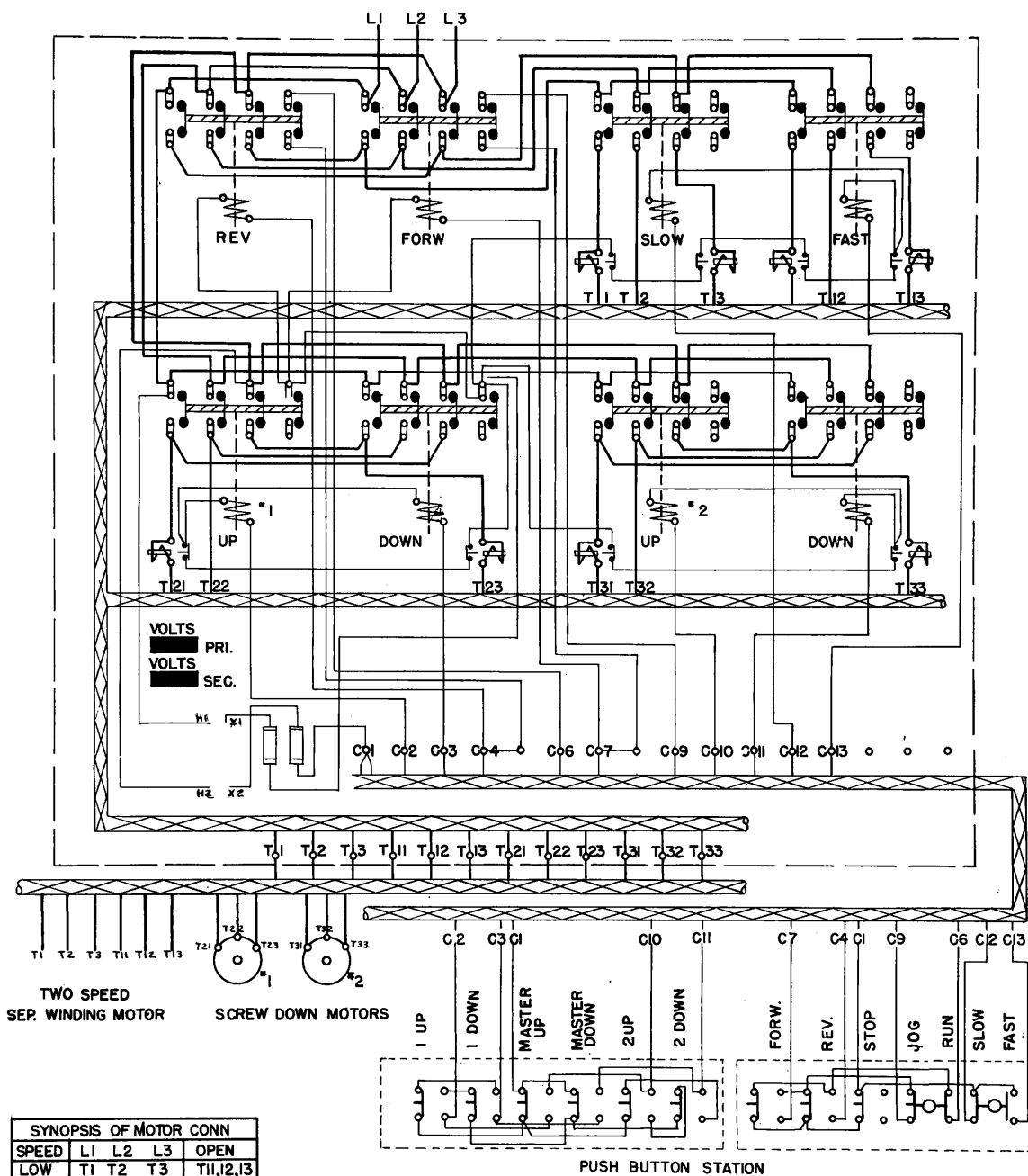


WIRING DIAGRAM **FARNHAM FORMING ROLL**

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 13239-C



ALLEN-BRADLEY CONTROLS Y-12047

WIRING DIAGRAM

FARNHAM FORMING ROLL

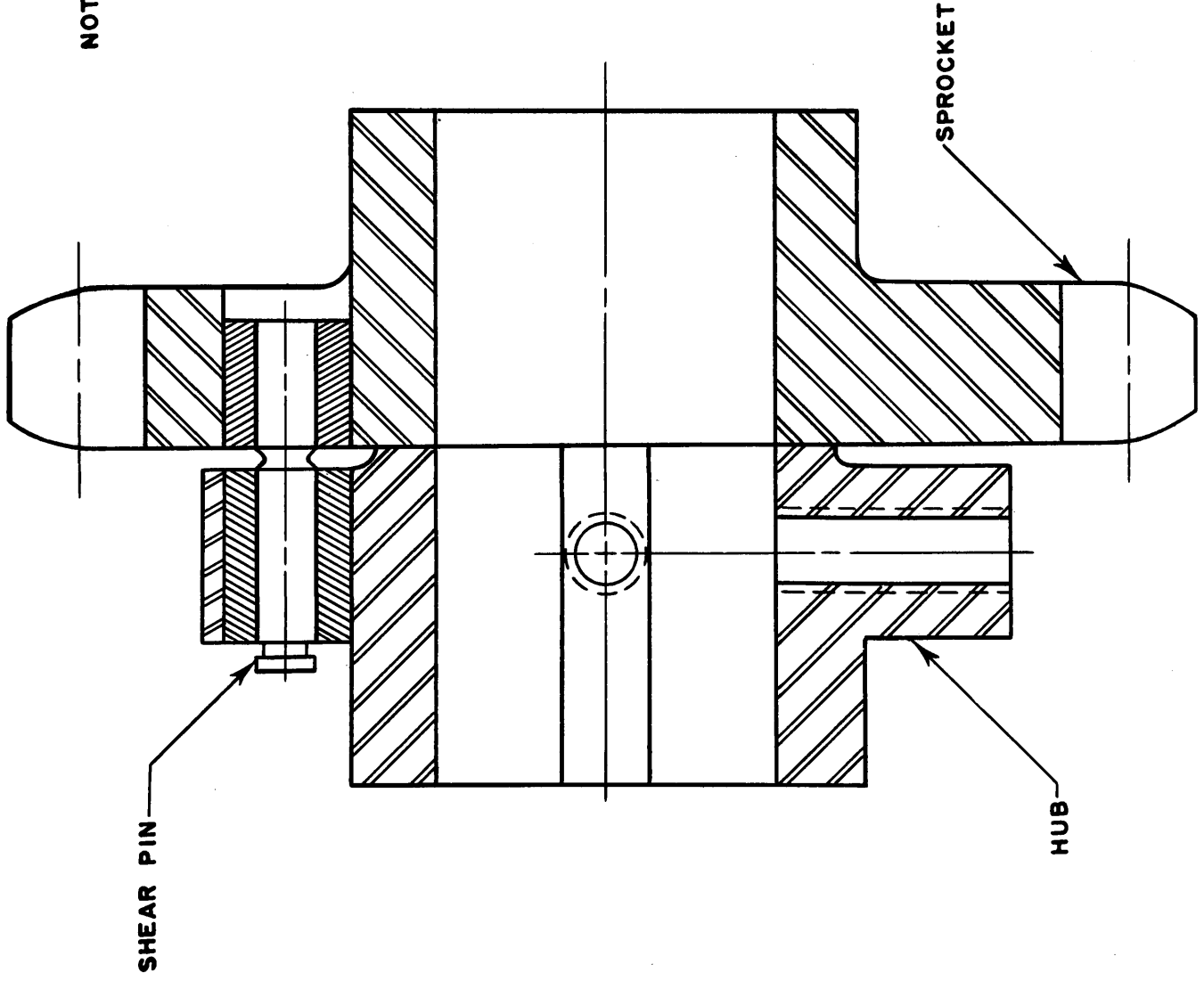
Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 8556-C

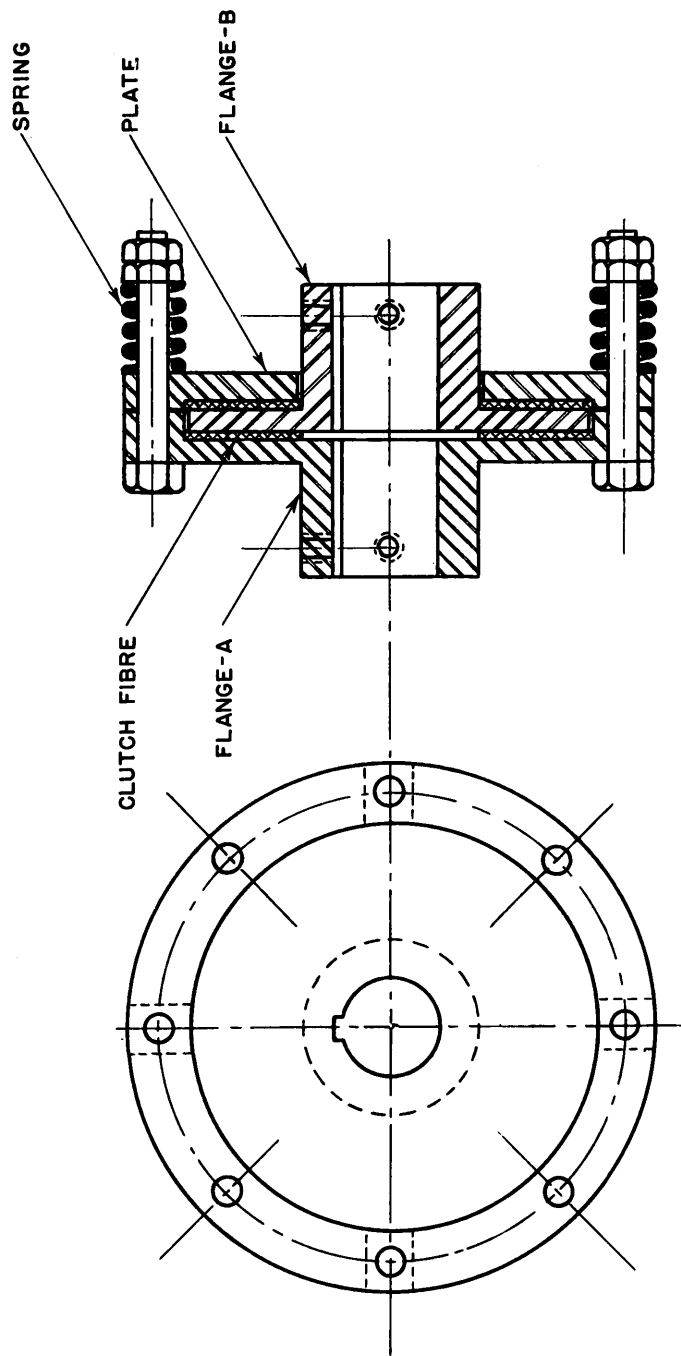
NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

HUB AND SPROCKET MUST BE
ORDERED AS A UNIT. CANNOT
BE REPLACED SEPARATELY.



SHEAR PIN HUB
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12679-A



NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS RE-
QUIRED, IT CAN BE ORDERED BY
THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

SLIP CLUTCH ASSEMBLY

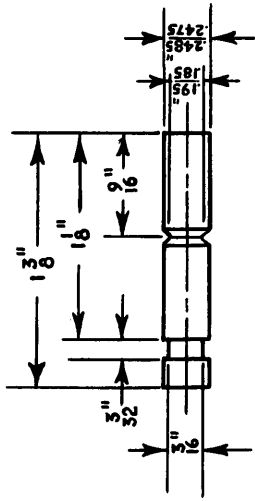
FARNHAM FORMING ROLL

Designed by

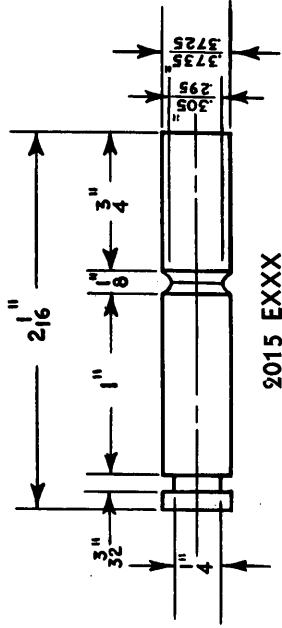
PARAGON RESEARCH, INC. *for*

FARNHAM MANUFACTURING COMPANY

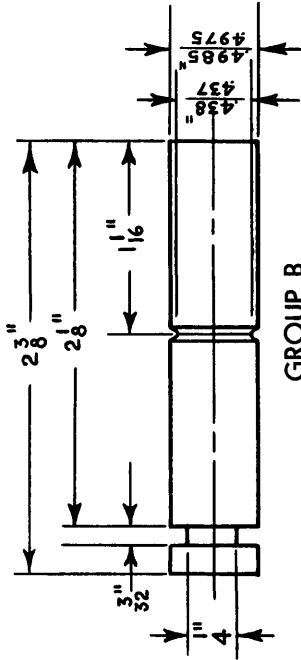
PART NUMBER 12686-B



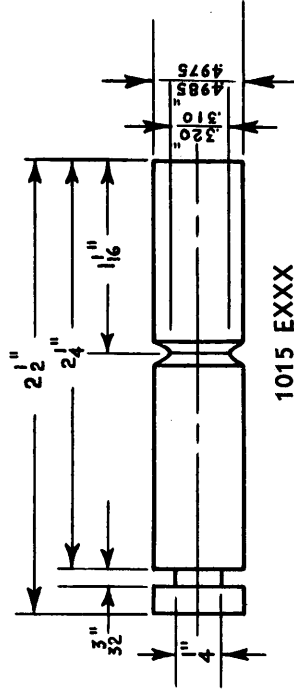
GROUP A
GROUP F



2015 EXXX



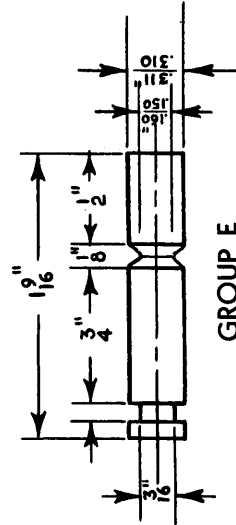
GROUP B
GROUP C



1015 EXXX

MATL.-DRILL ROD

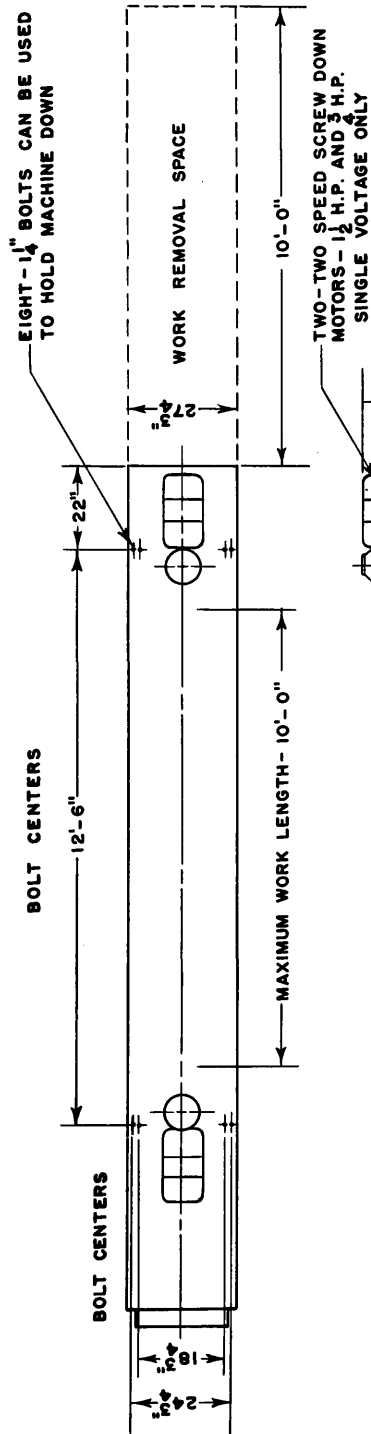
"V" GROOVE WITH ROUND POINT GIVES
A CLEAN BREAK THAT MAKES THE
BROKEN PIN EASY TO REMOVE...



GROUP E

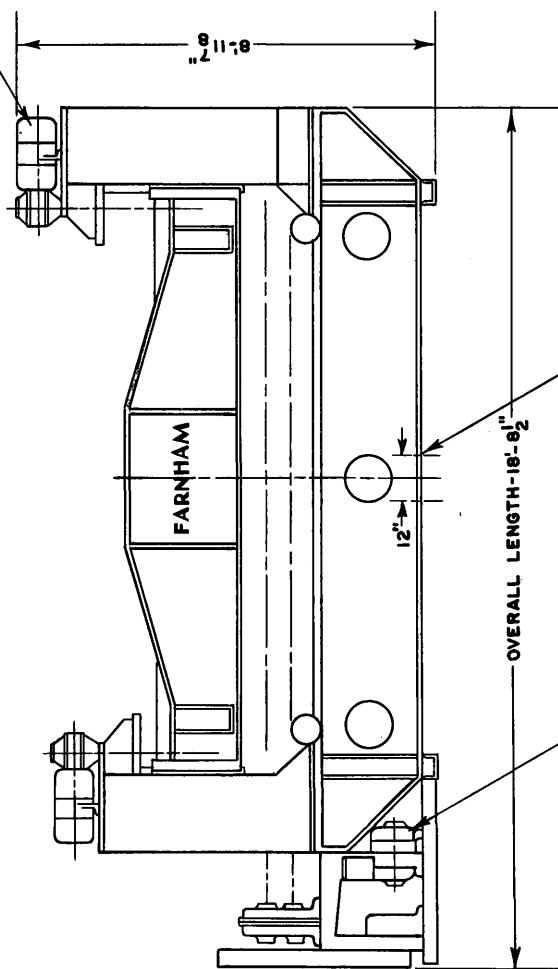
S H E A R P I N S
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 13223-A



**MODEL SIZE - 1015-EXXX
SHIPPING WEIGHT - 19,070**

SCREW DOWN MOTORS ARE REMOVED FOR SHIPPING - 9'-4" OVERALL HEIGHT OF MACHINE WHEN CRATED.



LEAVE CONVENIENT SPACE IN FRONT AND BACK OF MACHINE FOR INSERTING WORK--

INSTALLATION PLAN

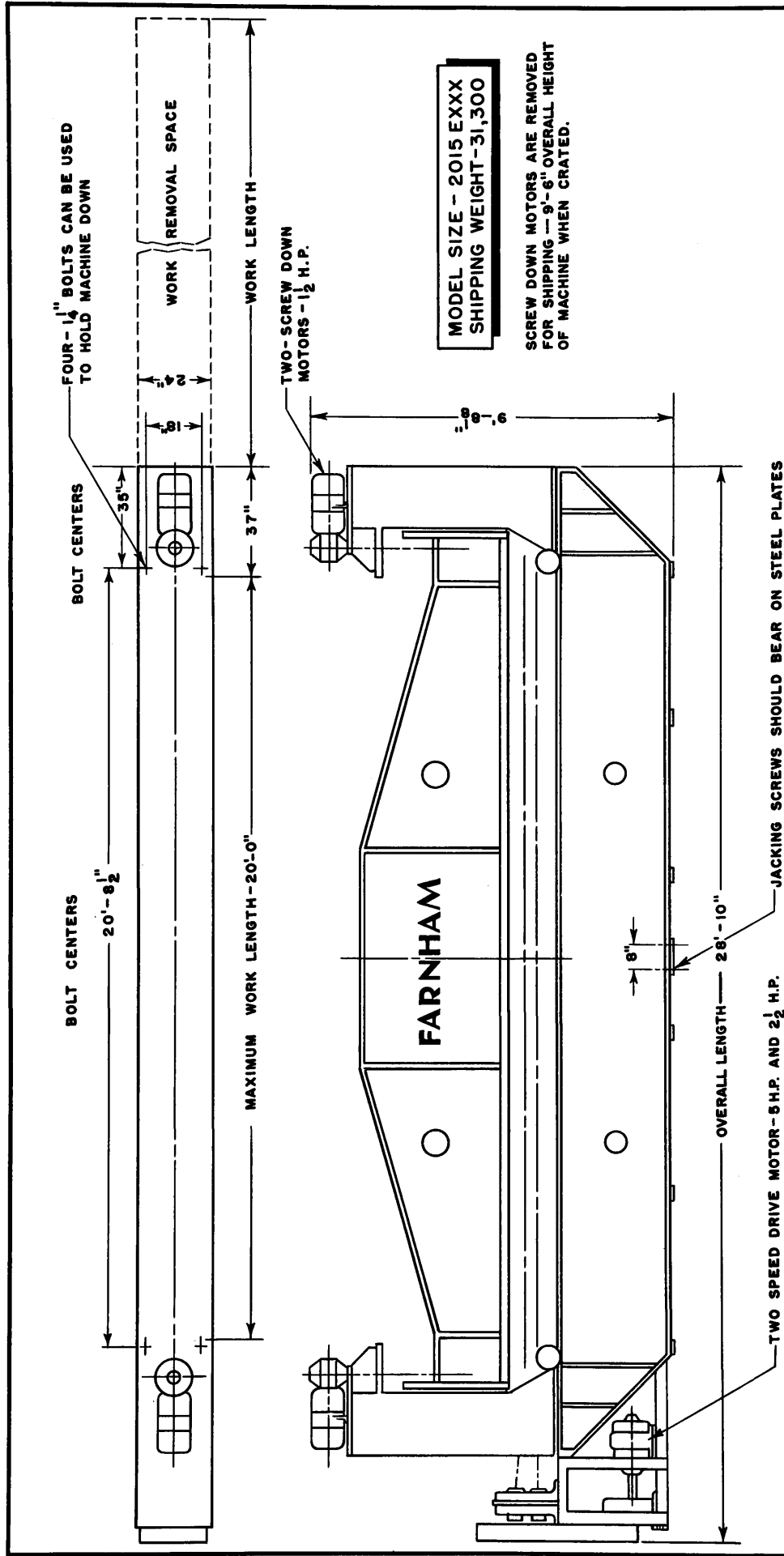
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12713-B



INSTALLATION PLAN

FARNHAM FORMING ROLL

Designed by

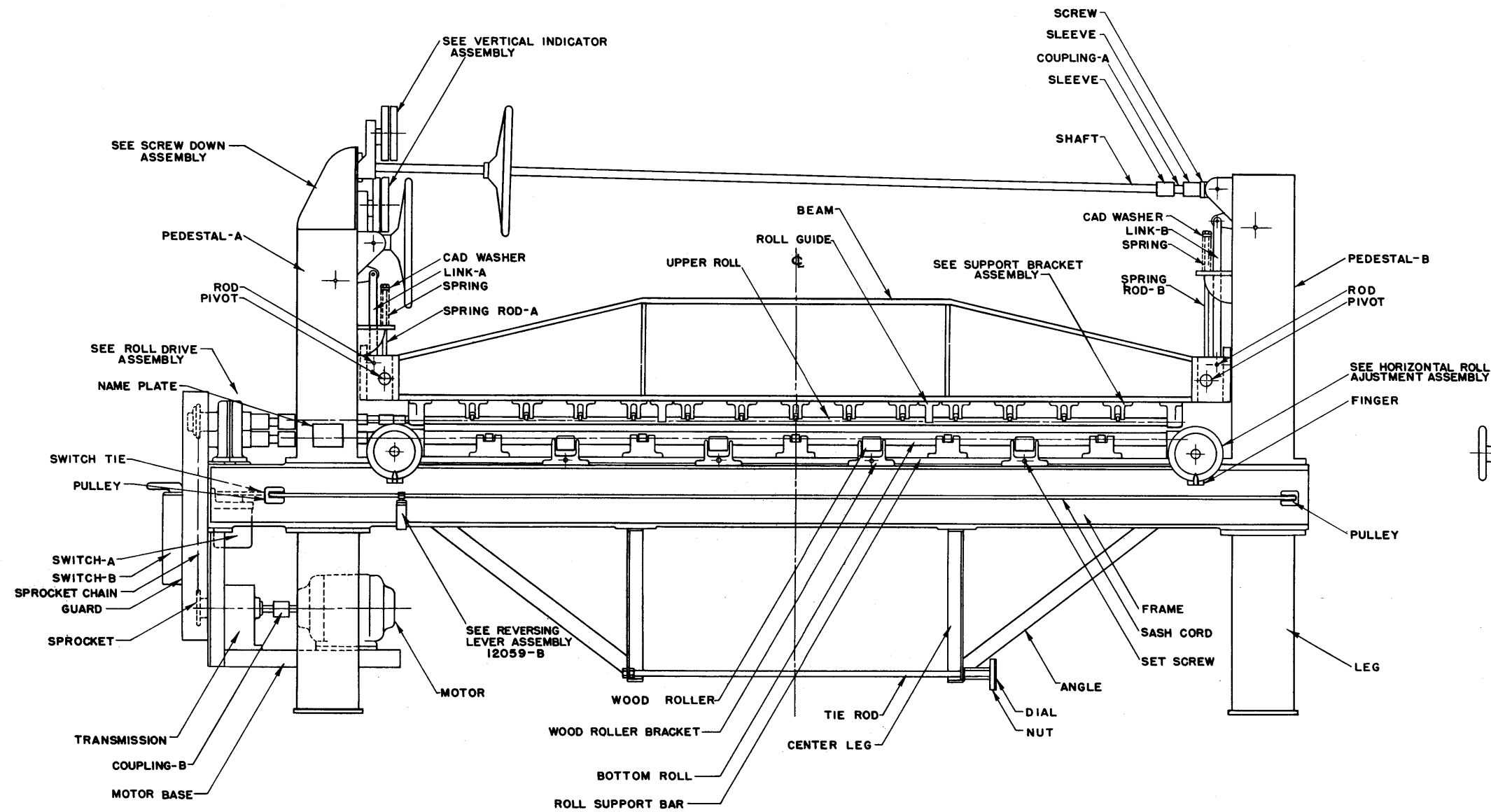
PARAGON RESEARCH, INC. *for*

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12698-B

LEAVE CONVENIENT SPACE IN FRONT AND BACK OF MACHINE FOR INSERTING WORK.

GROUP E

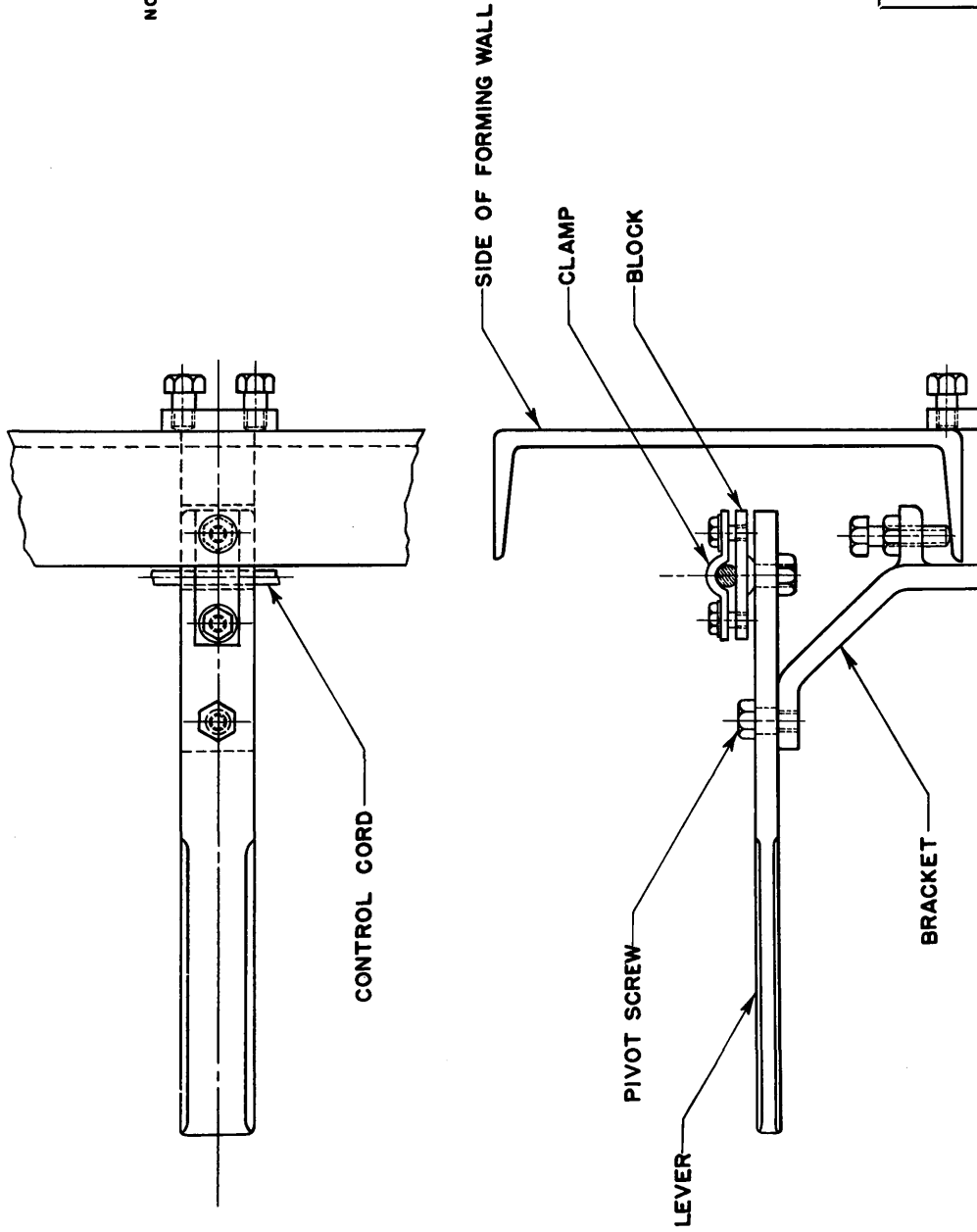


NOTE - WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

FORMING ROLL ASSEMBLY
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12355-D

NOTE—WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED BY
THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.



REVERSING LEVER ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12059-B

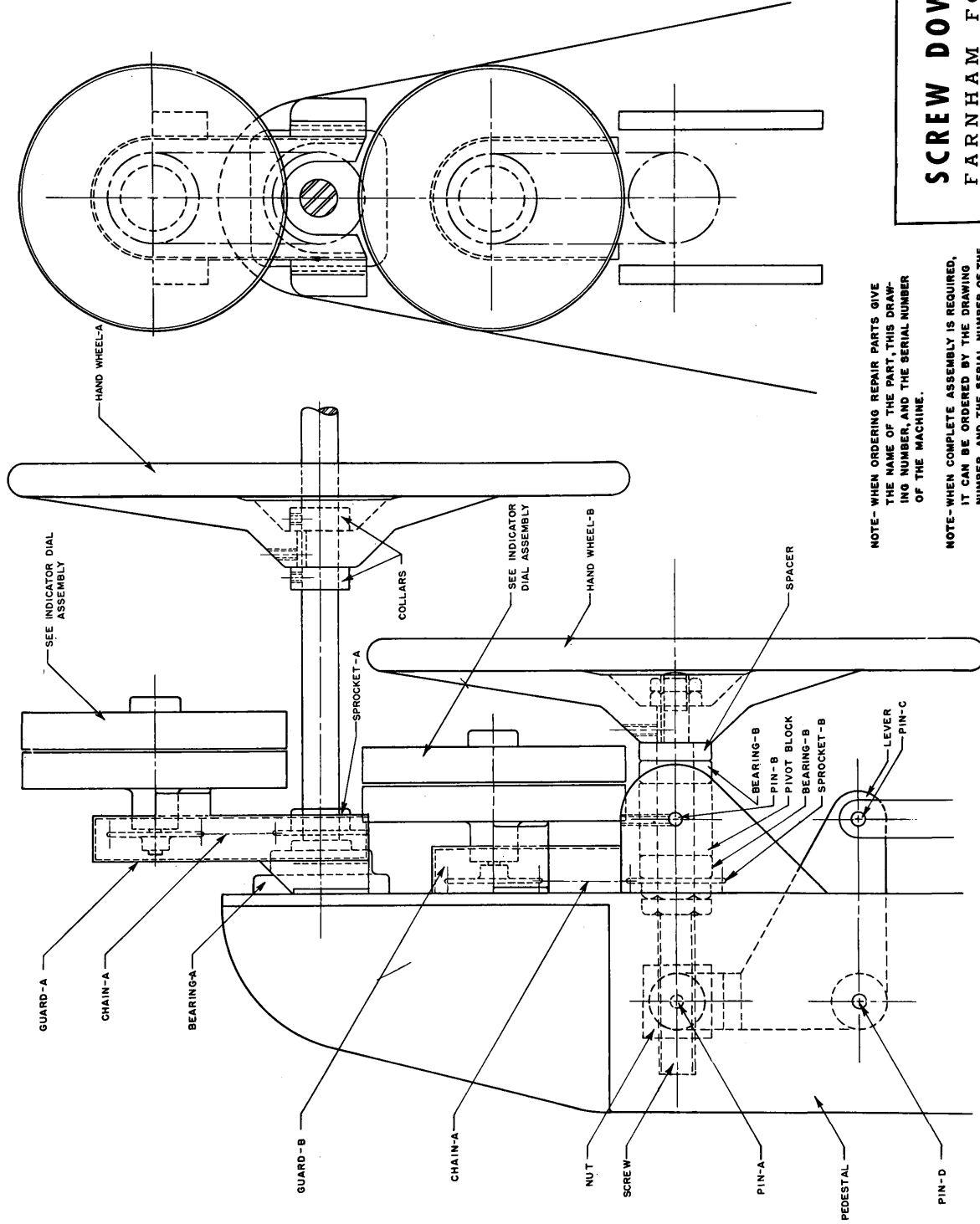
SCREW DOWN ASSEMBLY

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

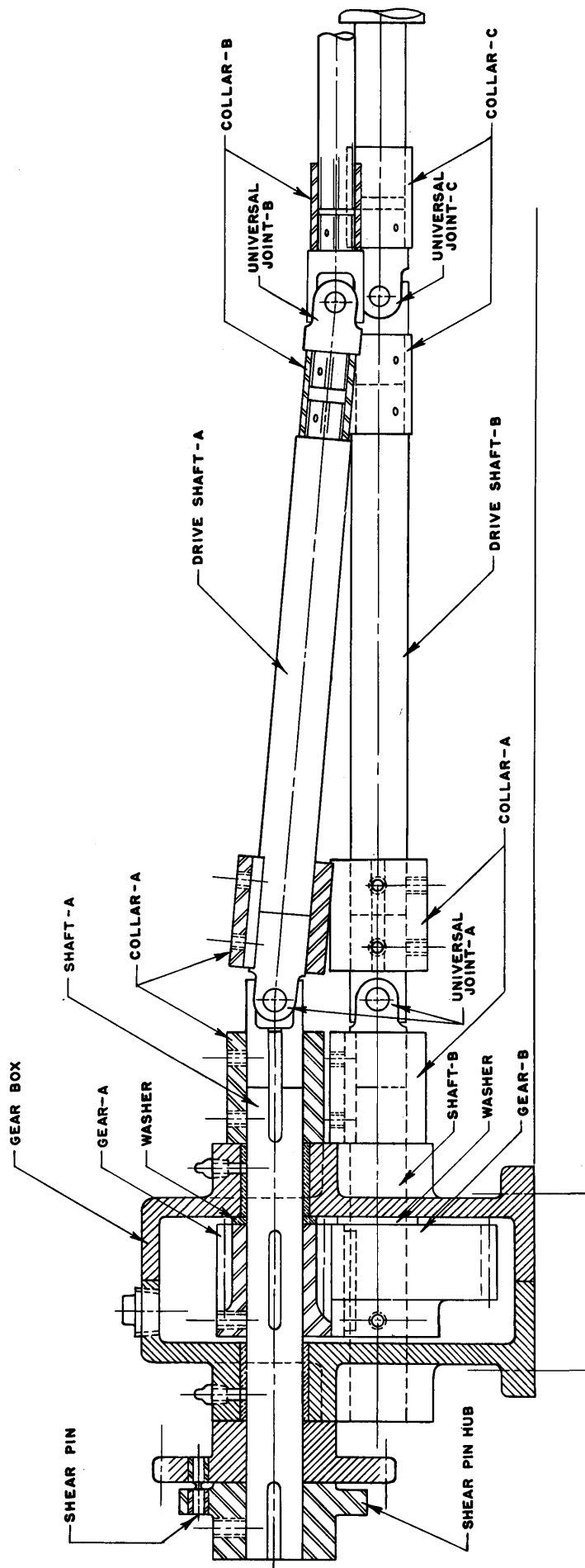
PART NUMBER 12126-C



NOTE- WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE- WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE- NOT TO SCALE



NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

ROLL DRIVE ASSEMBLY

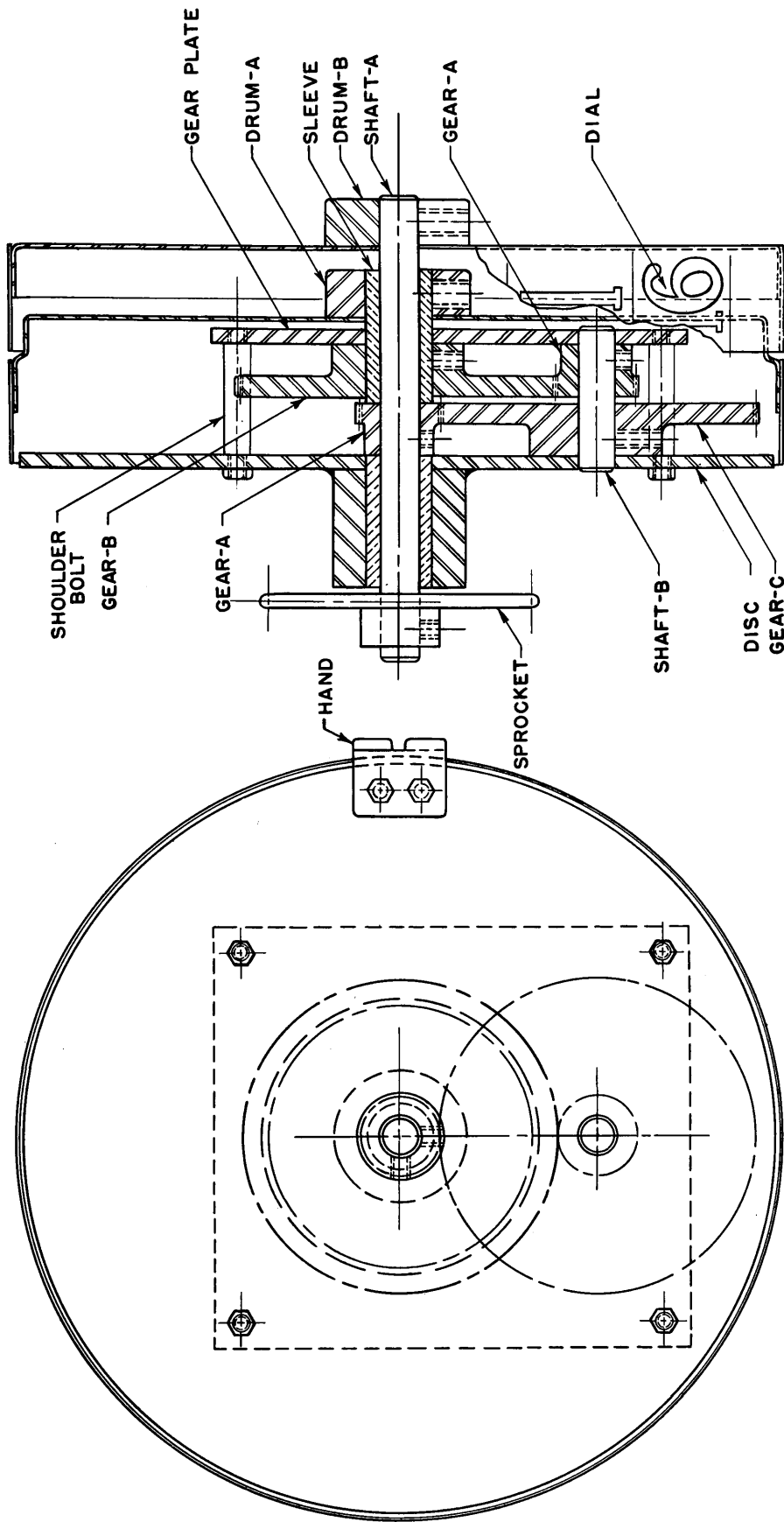
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

FARNHAM MANUFACTURING COMPANY

PART NUMBER 12364-B



NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE - NOT TO SCALE

VERTICAL INDICATOR

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

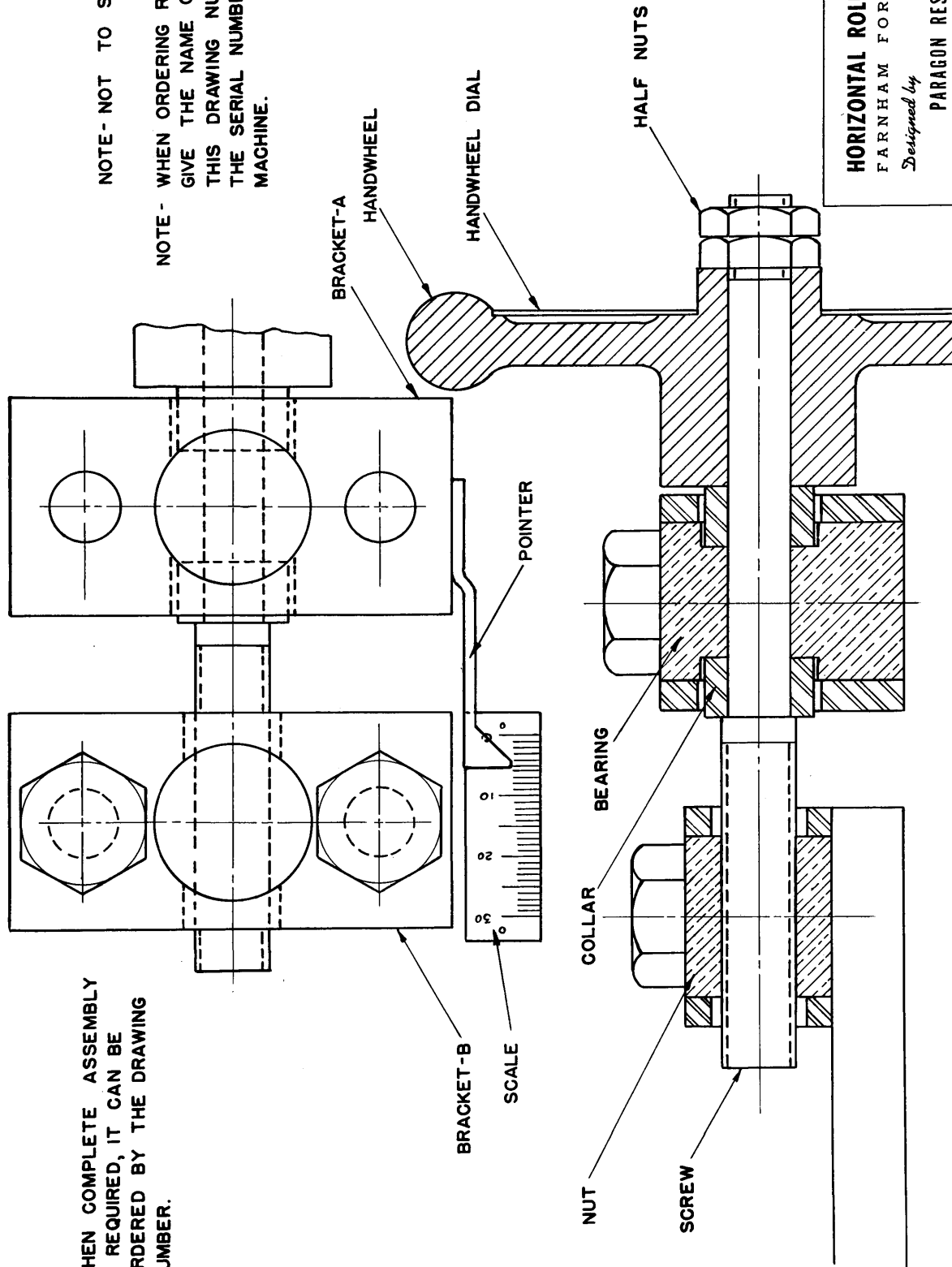
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12121-B

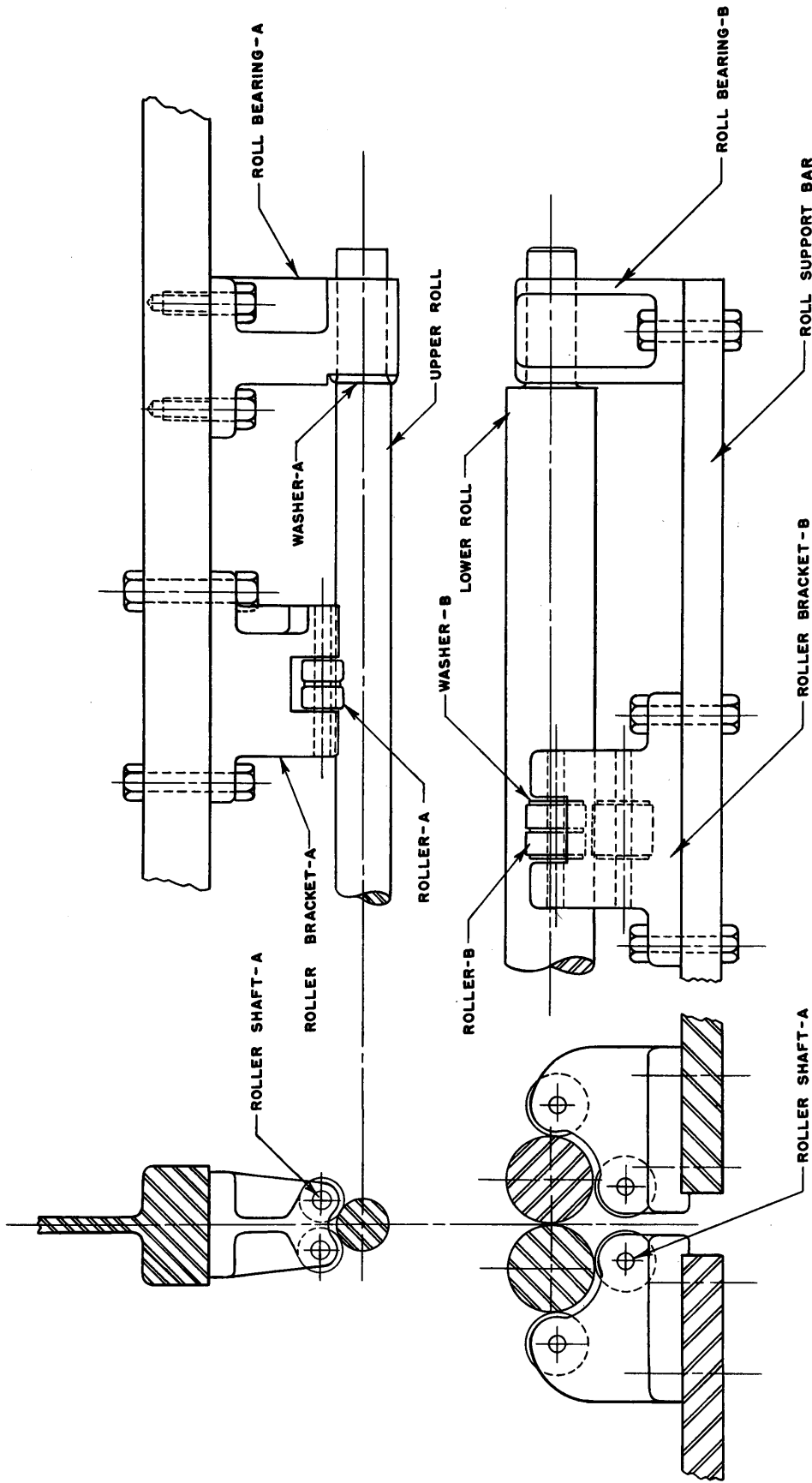
NOTE - WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.



HORIZONTAL ROLL ADJUSTMENT
 FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
 FARNHAM MANUFACTURING COMPANY
 PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

SUPPORT BRACKETS

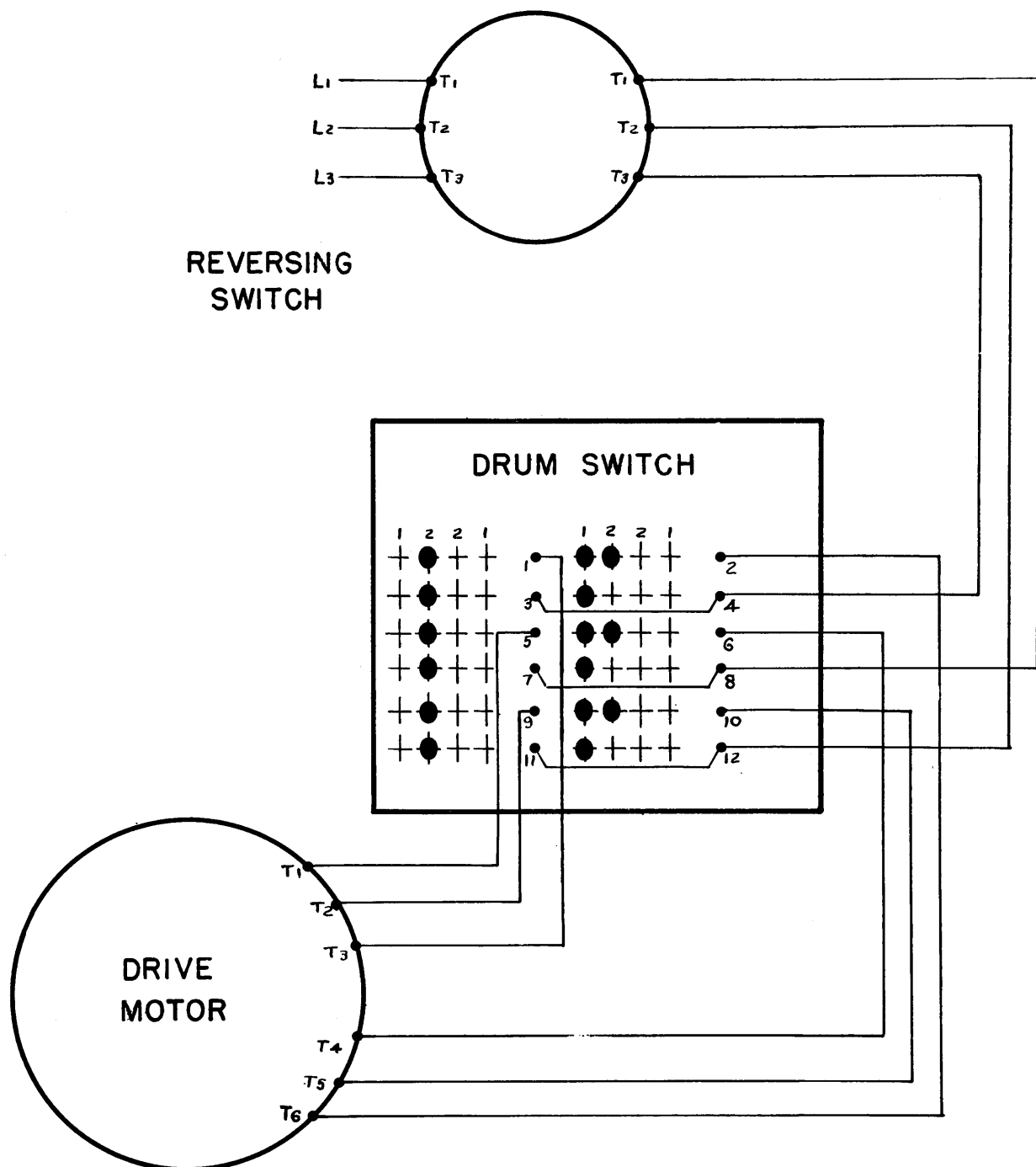
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. *for*

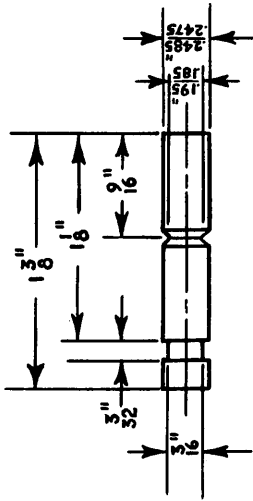
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



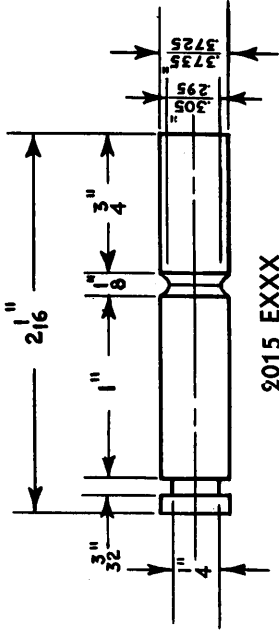
DRIVE MOTOR
FARNHAM FORMING ROLL

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A

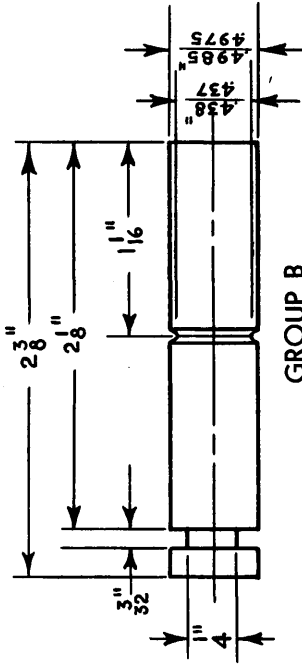


GROUP A

GROUP F

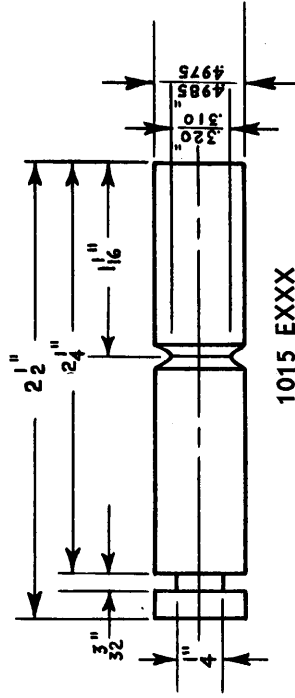


2015 EXXX

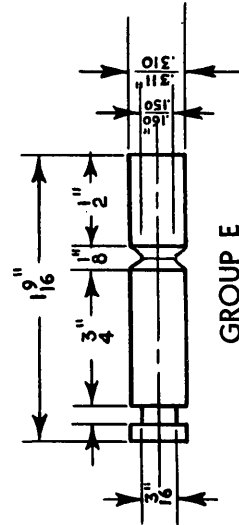


GROUP B

GROUP C



1015 EXXX

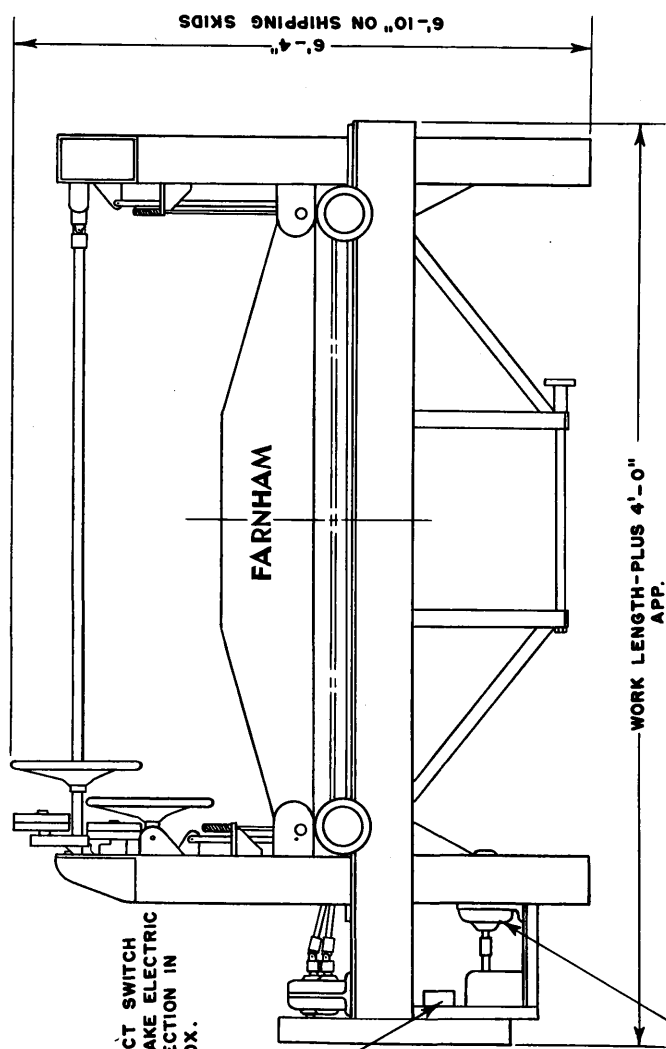
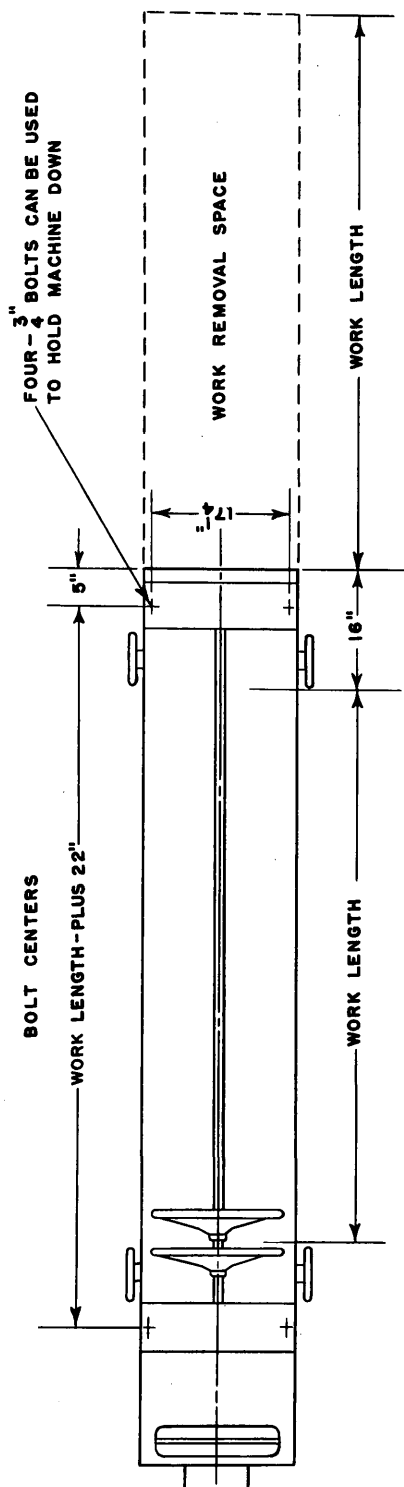


GROUP E

MATL.-DRILL ROD

"V" GROOVE WITH ROUND POINT GIVES
A CLEAN BREAK THAT MAKES THE
BROKEN PIN EASY TO REMOVE...

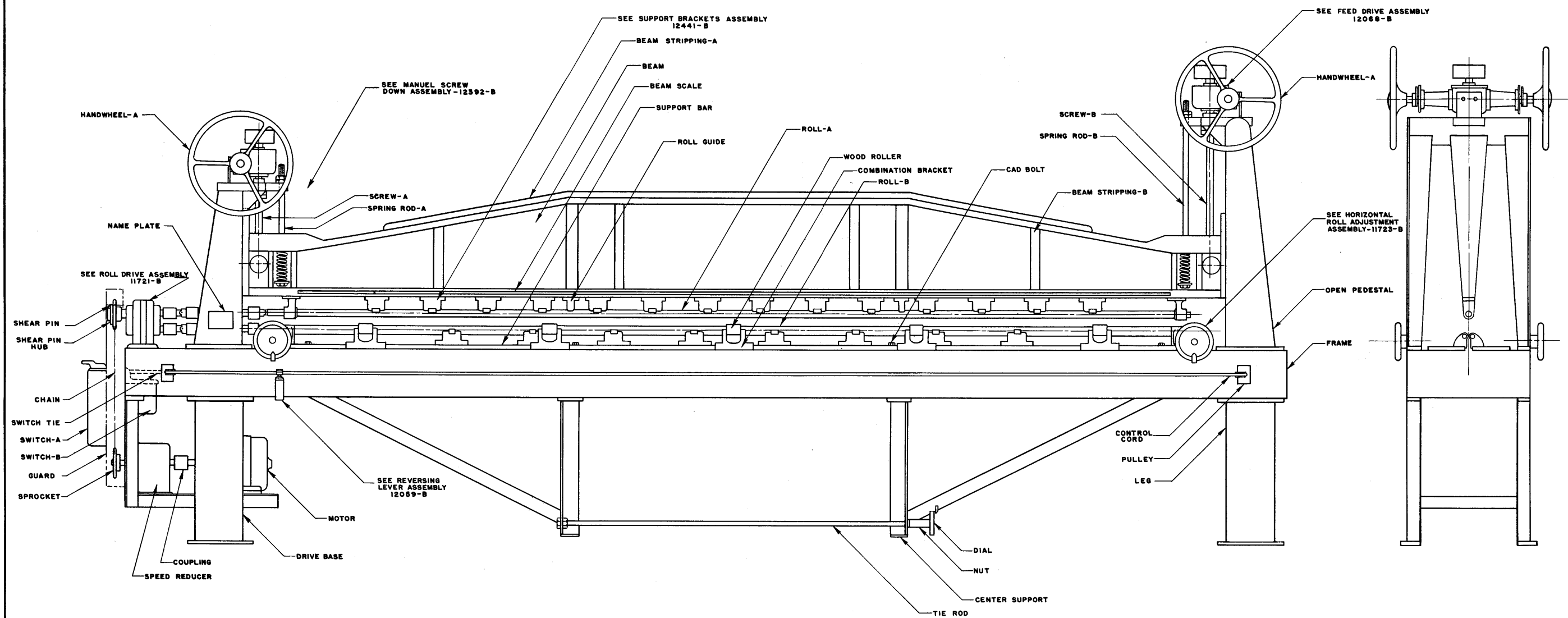
S H E A R P I N S
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. *for*
FARNHAM MANUFACTURING COMPANY
PART NUMBER 13223-A



MODEL SIZE	WORK LENGTH	SHIPPING WEIGHT
638	6'-0"	2,220
738	7'-0"	2,300

INSTALLATION PLAN
 FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
 FARNHAM MANUFACTURING COMPANY
 PART NUMBER 12544-B

GROUP F



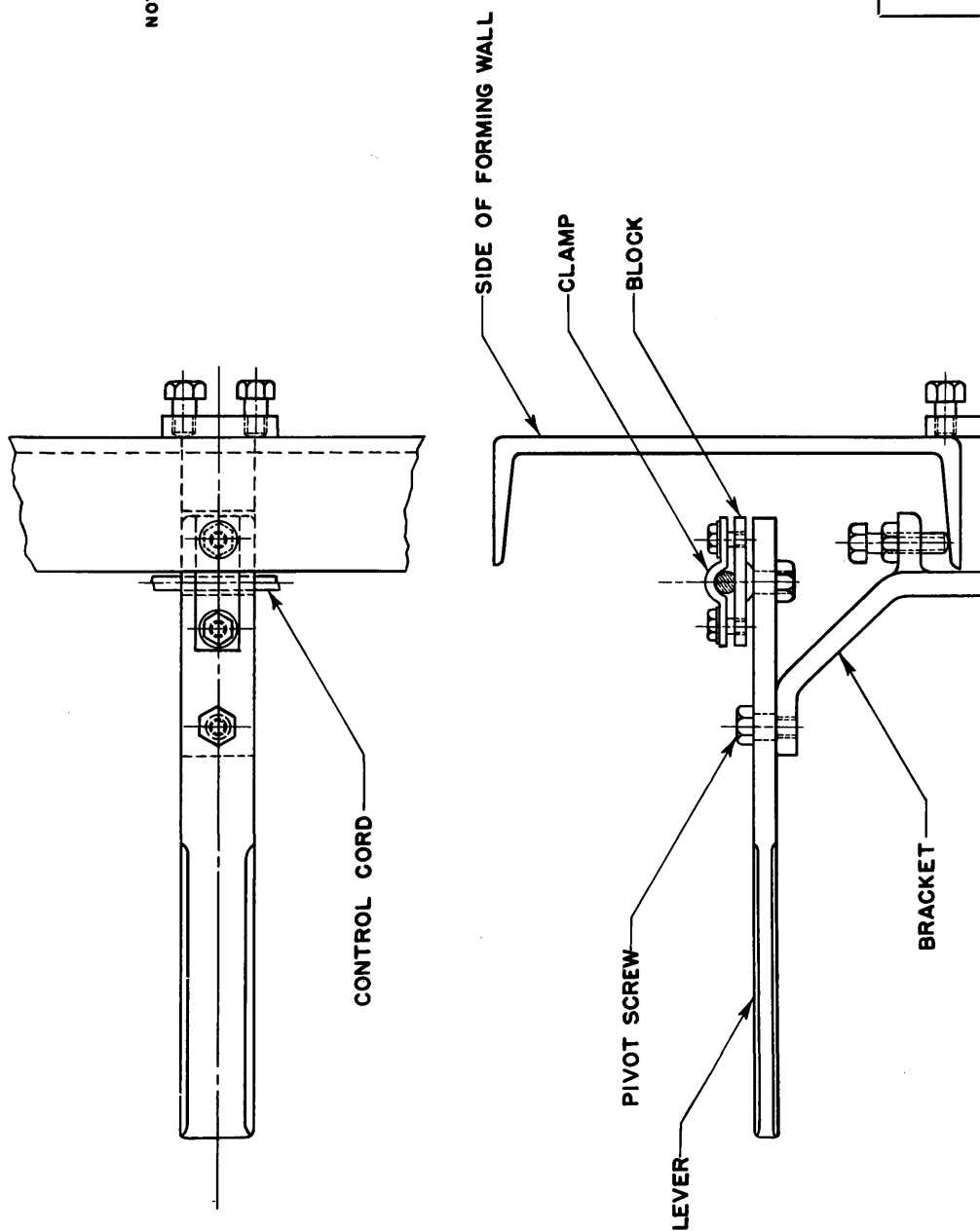
NOTE- WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE-NOT TO SCALE

FORMING ROLL ASSEMBLY
FARNHAM FORMING ROLL
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12453-D

NOTE - WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED BY
THE DRAWING NUMBER, AND THE
SERIAL NUMBER OF THE MACHINE.

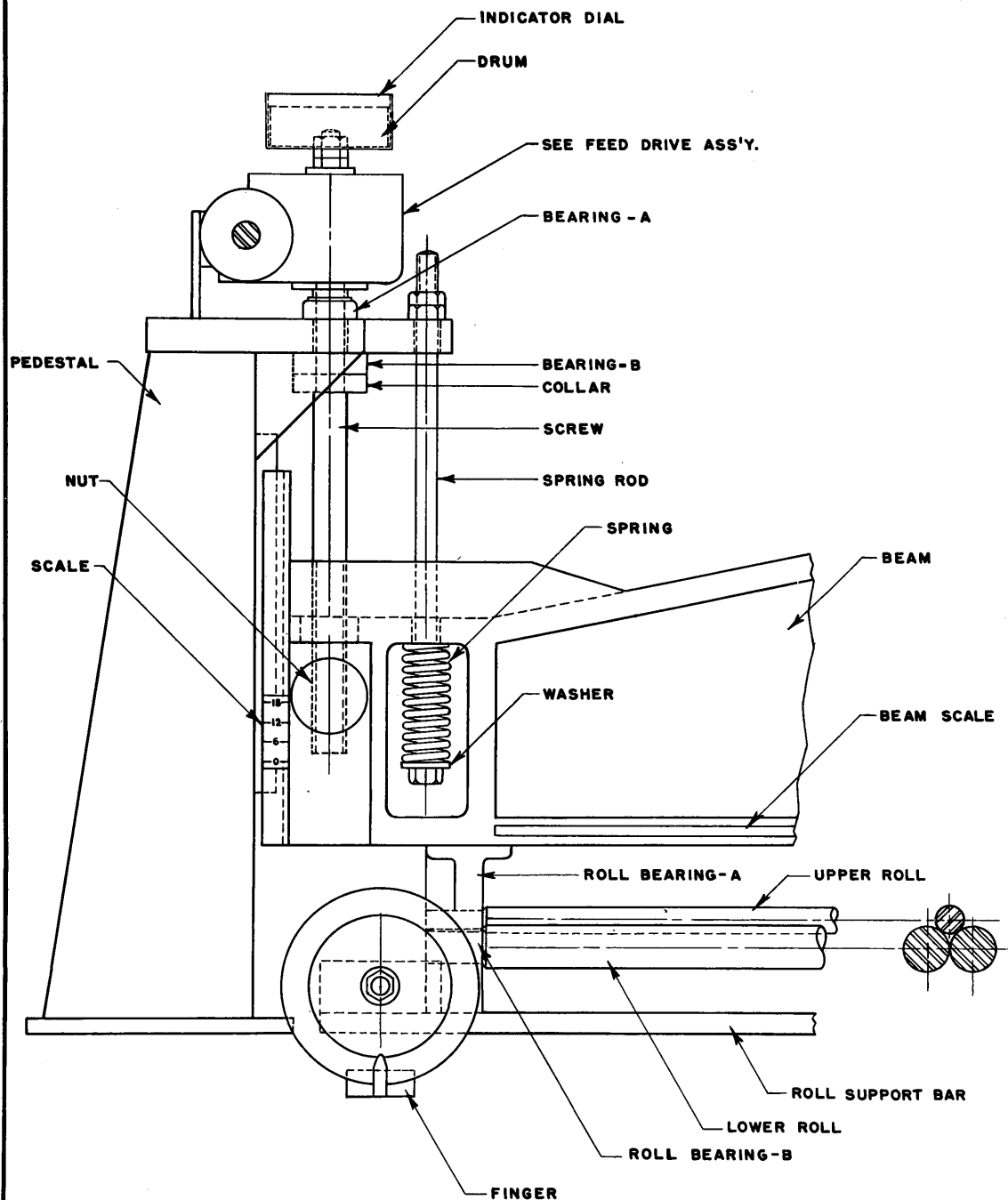


REVERSING LEVER ASSEMBLY
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12059-B



NOTE-WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

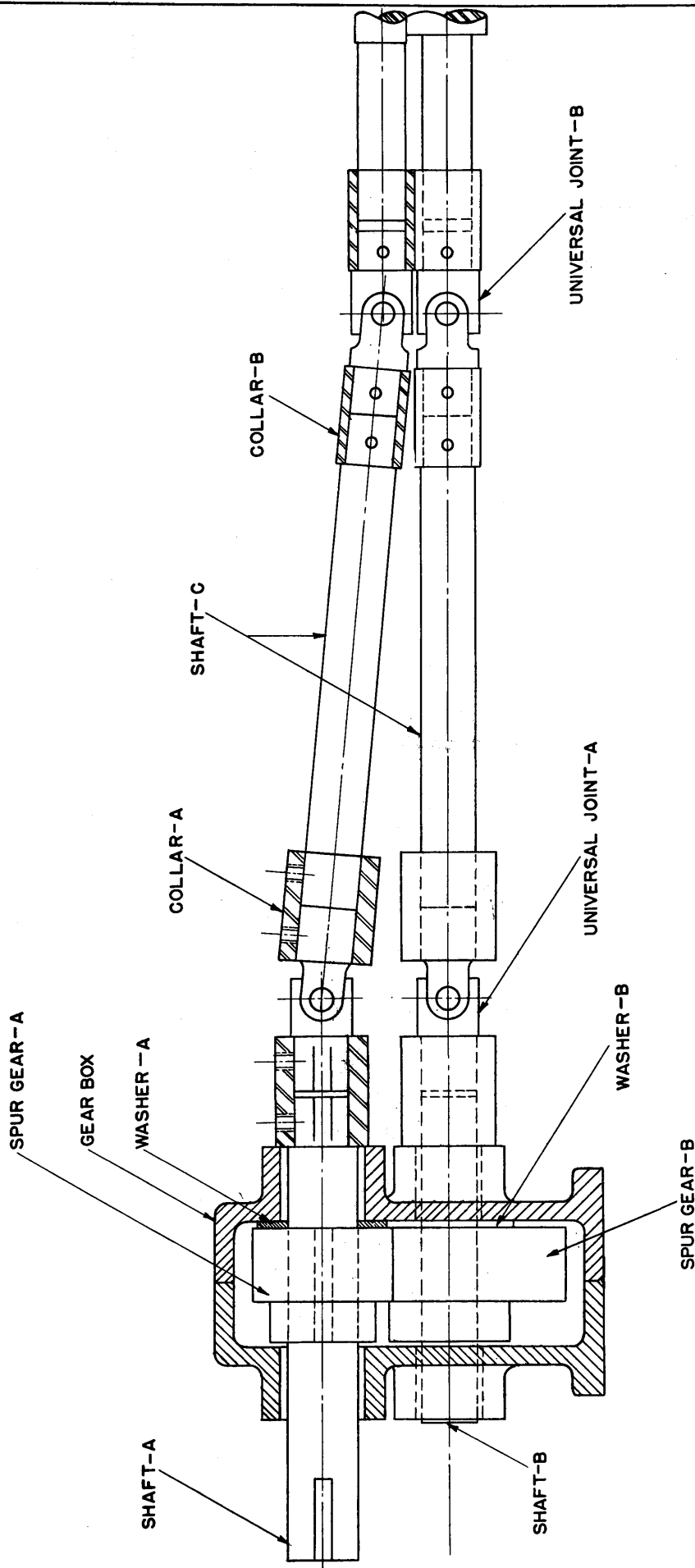
SCREW DOWN ASSEMBLY

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12392-B



NOTE- WHEN ORDERING REPAIR PARTS
GIVE THE NAME OF THE PART,
THIS DRAWING NUMBER, AND
THE SERIAL NUMBER OF THE
MACHINE.

WHEN COMPLETE ASSEMBLY IS
REQUIRED, IT CAN BE ORDERED
BY THE DRAWING NUMBER.

NOTE- NOT TO SCALE

ROLL DRIVE ASSEMBLY

FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for

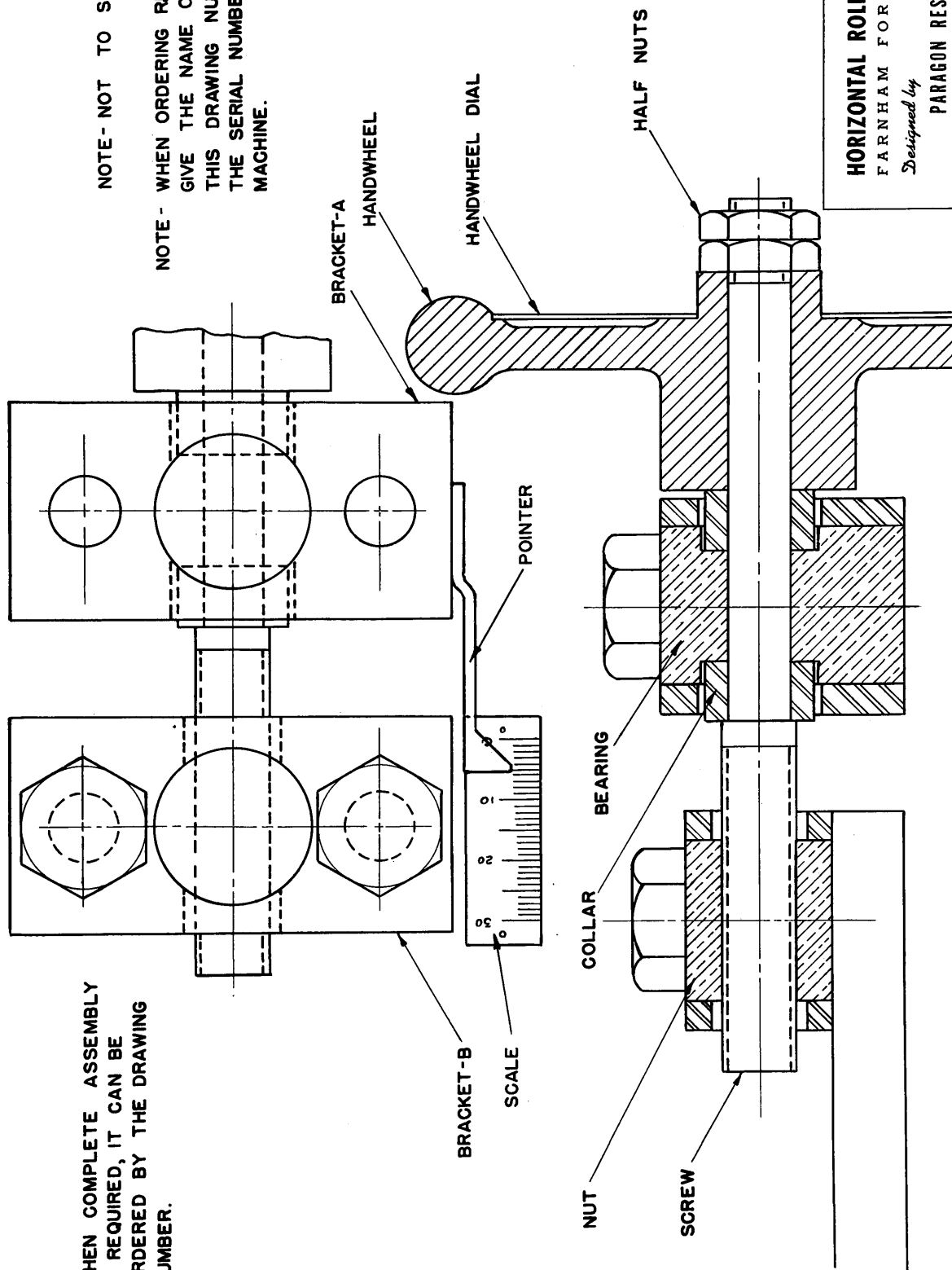
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11721-B

NOTE - WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER.

NOTE - NOT TO SCALE

NOTE - WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

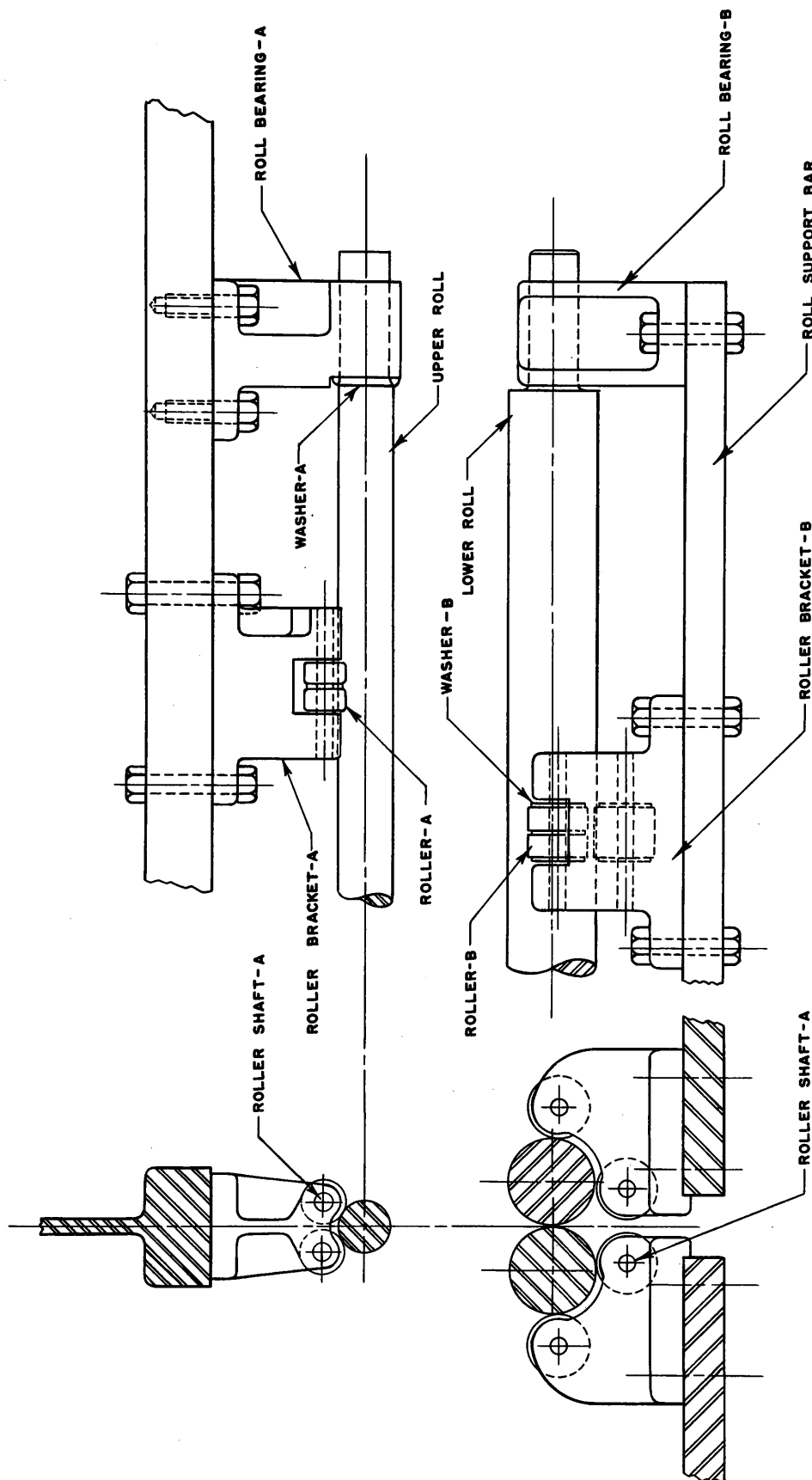


HORIZONTAL ROLL ADJUSTMENT
FARNHAM FORMING ROLL

Designed by

PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 11723-B



NOTE- WHEN ORDERING REPAIR PARTS, GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

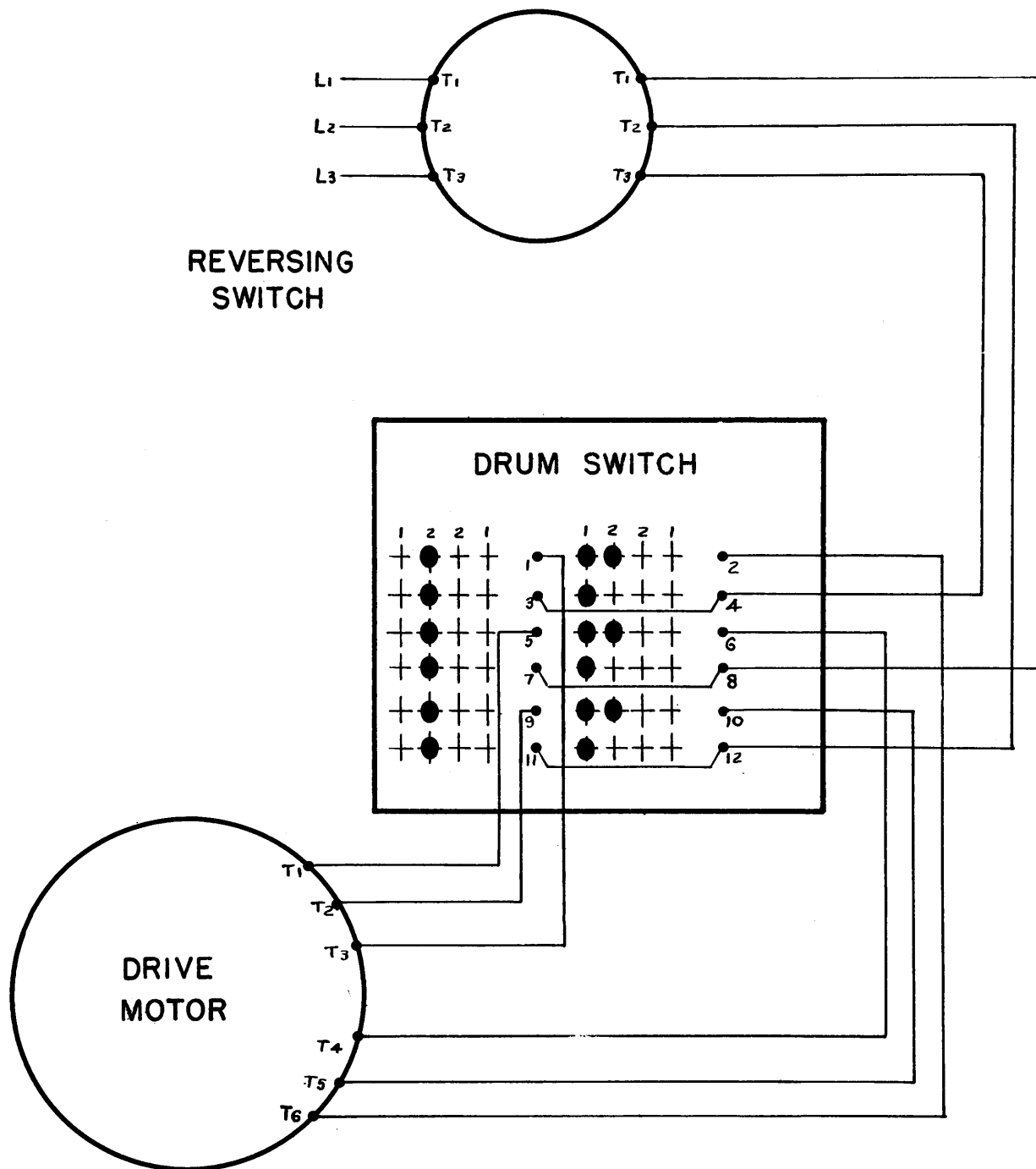
SUPPORT BRACKETS

FARNHAM FORMING ROLL

Designed by

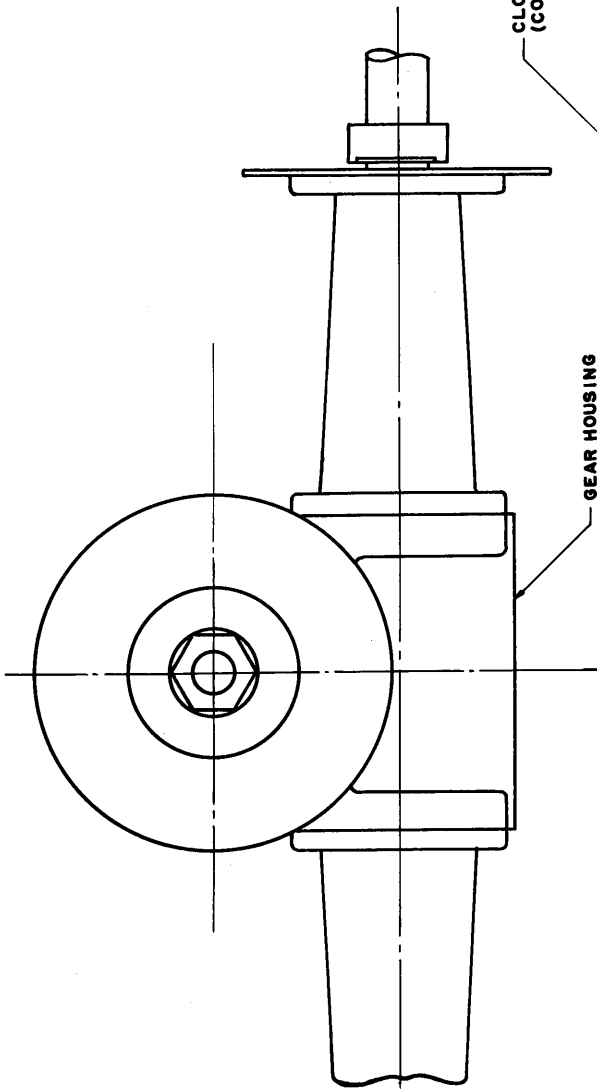
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY

PART NUMBER 12441-B



**DRIVE MOTOR
FARNHAM FORMING ROLL**

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 7929-A



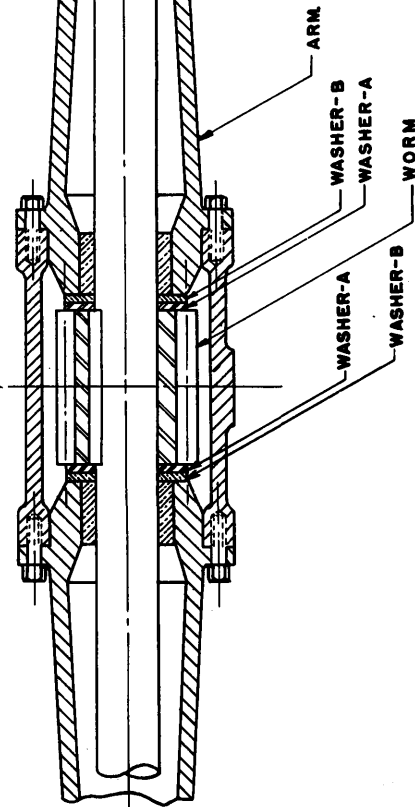
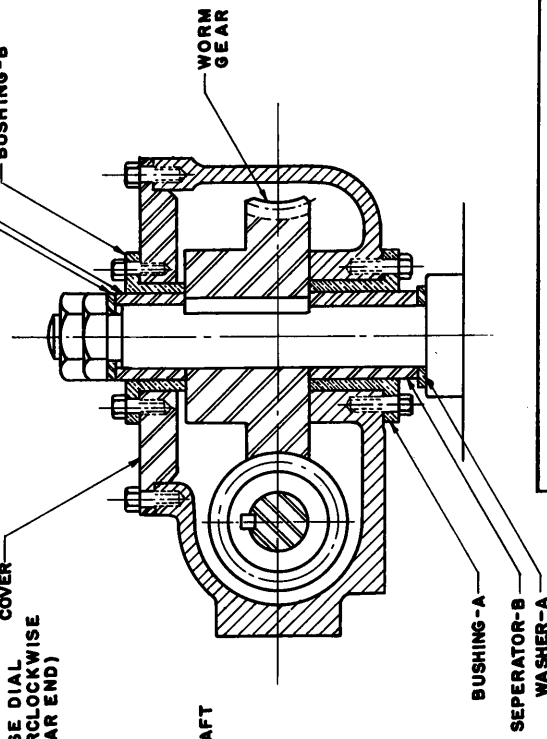
NOTE- WHEN ORDERING REPAIR PARTS GIVE THE NAME OF THE PART, THIS DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

NOTE- WHEN COMPLETE ASSEMBLY IS REQUIRED, IT CAN BE ORDERED BY THE DRAWING NUMBER, AND THE SERIAL NUMBER OF THE MACHINE.

CLOCKWISE DIAL COVER (COUNTERCLOCKWISE AT FAR END)

FINGER

WORM SHAFT



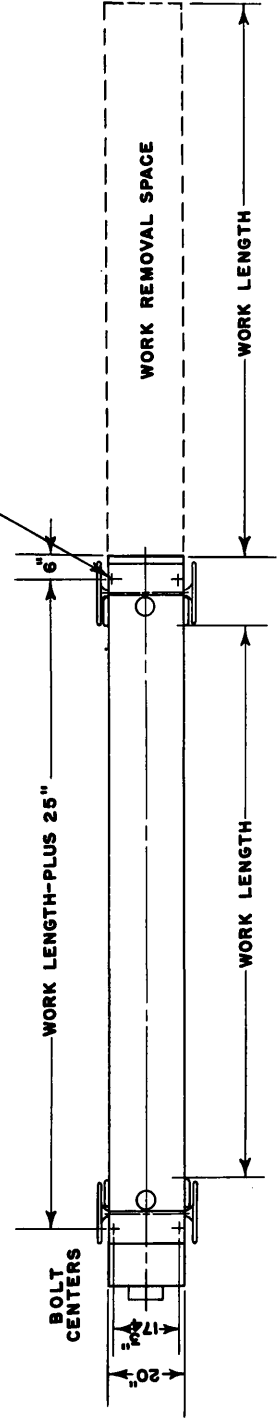
NOTE- NOT TO SCALE

FEED DRIVE ASSEMBLY **FARNHAM FORMING ROLL**

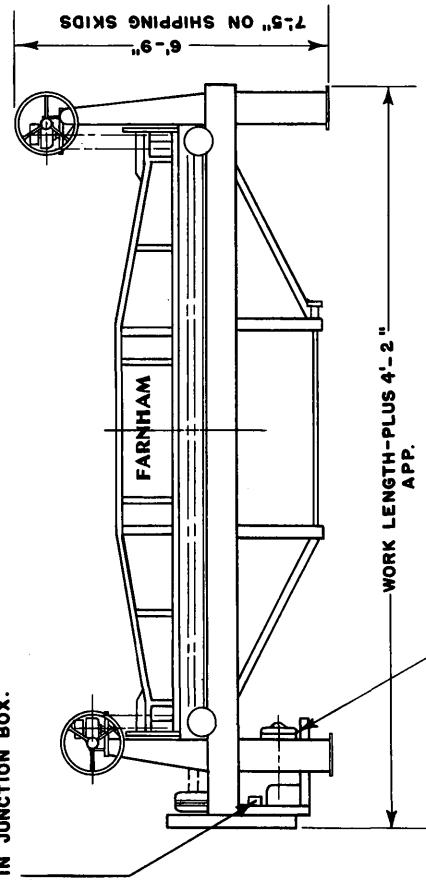
Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12068-B

FOUR - 3/4" BOLTS CAN BE USED
TO HOLD MACHINE DOWN

BOLT CENTERS



NO DISCONNECT SWITCH FURNISHED -
MAKE ELECTRIC POWER CONNECTION
IN JUNCTION BOX.



TWO SPEED DRIVE MOTOR
SINGLE VOLTAGE ONLY

LEAVE CONVENIENT SPACE IN FRONT AND
BACK OF MACHINE FOR INSERTING WORK

MODEL SIZE	WORK LENGTH	TWO SPEED MOTOR	SHIPPING WEIGHT
658	6'-1"	2 AND 1/4 H.P.	3,020
858	8'-1"	2 AND 1/4 H.P.	3,320
1058	10'-0"	2 AND 1/4 H.P.	3,600
1258	12'-0"	2 AND 1/4 H.P.	3,925
1558	15'-0"	2 AND 1/4 H.P.	4,550
610	6'-1"	2 AND 3/8 H.P.	3,095
810	8'-1"	2 AND 3/8 H.P.	3,395
1010	10'-0"	2 AND 3/8 H.P.	3,700
1210	12'-0"	2 AND 3/8 H.P.	4,010
1510	15'-0"	2 AND 3/8 H.P.	4,600
1810	18'-0"	2 AND 3/8 H.P.	5,000
610-X	6'-1"	2 AND 3/8 H.P.	3,095
810-X	8'-1"	2 AND 3/8 H.P.	3,395

INSTALLATION PLAN **FARNHAM FORMING ROLL**

Designed by
PARAGON RESEARCH, INC. for
FARNHAM MANUFACTURING COMPANY
PART NUMBER 12548-B