

# ASSEMBLY AND OPERATING INSTRUCTIONS WITH PARTS LIST FOR

## CRAFTSMAN WET GRINDER

### MODEL NUMBER 109.66220

The above Model Number will be found on a plate attached to your Grinder. Always mention this Model Number when communicating with us or when ordering repair parts or replacements for your Grinder.

### HOW TO ORDER REPAIR PARTS

All parts listed herein may be ordered through SEARS, ROEBUCK AND CO. or SIMPSONS-SEARS LIMITED. When ordering parts by mail from the mail order house which serves the territory in which you live, selling prices will be furnished on request or parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION AS SHOWN IN THIS LIST:

1. The PART NUMBER.
2. The PART NAME.
3. The MODEL NUMBER, 109.66220.
4. The ITEM NAME, Wet Grinder

### COAST TO COAST NATION-WIDE SERVICE FROM SEARS FOR YOUR CRAFTSMAN WET GRINDER



SEARS, ROEBUCK AND CO. and SIMPSONS - SEARS LIMITED in Canada back up your investment with quick, expert mechanical service and genuine CRAFTSMAN replacement parts.

If and when you need repairs or service, call on us to protect your investment in this fine piece of equipment.

**SEARS, ROEBUCK AND CO. - U.S.A.**  
**IN CANADA, SIMPSONS - SEARS LIMITED**

# ASSEMBLY AND OPERATION

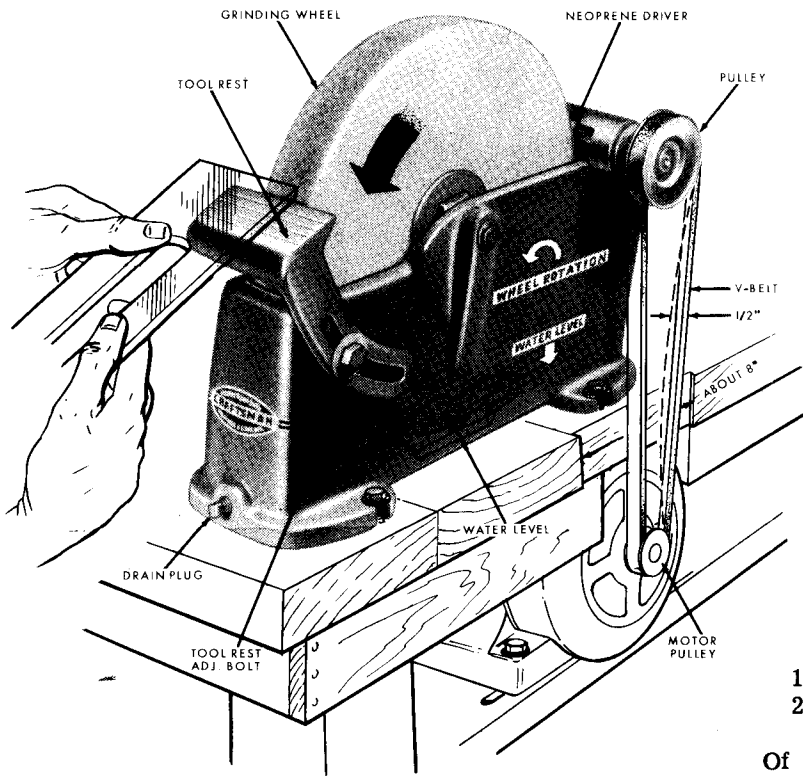


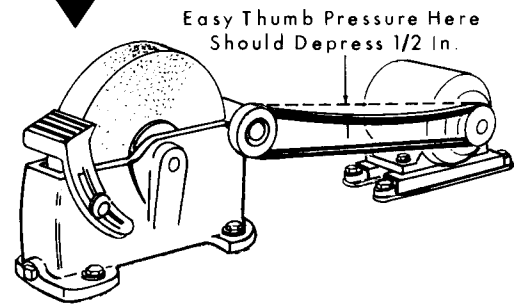
FIGURE 1

MOTOR MOUNTED BELOW GRINDER  
WITH SLOTS CUT IN THE  
MOTOR MOUNTING PLATFORM



FIGURE 2

MOTOR MOUNTED  
BEHIND GRINDER USING  
ADJUSTABLE MOTOR MOUNTING RAILS



1. Motor mounted below the Grinder (Fig. 1).
2. Motor mounted behind the Grinder (Fig. 2).

Of the two methods, the motor mounted below the Grinder is preferable. However, both methods are described below.

Your Grinder is equipped with a 10-inch diameter abrasive stone, which in time will be worn down to a smaller diameter. This abrasive sandstone is driven by a Neoprene Roller which is in constant contact with the stone and held there by spring pressure. Construction of the unit is such that satisfactory results will be obtained even if the wheel is worn down to about 8-inch diameter. The spring tension is sufficient to drive a stone reduced to the smaller diameter, provided the neoprene driver remains in contact with the stone. As the wheel wears down, the housing which holds the V-belt pulley and neoprene roller is pushed forward by the spring action, which, at the same time, tightens the belt. If the belt becomes too tight it may prevent proper contact of the neoprene roller with the stone, thus preventing the stone from rotating. The only remedy is to make provisions for moving the motor forward to lessen the belt tension. For this reason, be sure to provide slots for motor adjustment, as shown in the illustrations.

## MOUNTING MOTOR AT REAR (See Fig. 2.)

First, fasten the Grinder securely to a workbench or table, using the lugs provided at the base of the Grinder. Use a V-belt not shorter than 24 inches nor longer than 30 inches. Place this belt over the Grinder pulley and the motor pulley, align the belt and the two pulleys, and pull the motor back until the belt is properly stretched (that is, until finger pressure applied halfway between the two pulleys depresses the belt about 1/2 inch). This will be the correct location for the motor. However, even though most motors

## UNPACKING

Your *Craftsman* Wet Grinder is shipped complete (without motor, motor pulley or belt) in one carton. Before discarding the packing material examine it carefully for loose parts.

## PROPER SET-UP

### Motor and Pulley Specifications

You must use a 1750 rpm motor with a 2-inch diameter motor pulley — to provide a safe operating speed of approximately 130 rpm for the grinding wheel. Any 1/4 hp (or larger) motor will do if it is rated at 1750 rpm. **NEVER USE A FASTER SPEED MOTOR.** We recommend using any one of our 1/4 hp, 1750 rpm motors — together with one of our 2-inch diameter pulleys to fit the motor shaft, and one of our 1/2-inch V-belts (of a length to suit your installation).

## CAUTION

To operate the grinding wheel at speeds much in excess of 130 rpm is extremely dangerous as it is not constructed for such speeds. 130 rpm gives a surface speed of approximately 343 ft/min. — which is ample for any sharpening job.

## Mounting Grinder and Motor

There are two ways to mount the Grinder and its motor:

do have elongated mounting slots, such slots generally are only 1/2 inch in length — which does not allow for sufficient adjustment. Therefore, before fastening the motor in place, cut elongated slots in the bench (or table) which will permit the motor to be moved at least 1-1/2 inch nearer to the grinder and at least 1 inch farther back from the grinder. This will provide for the required adjustment as the stone wears down, as explained in the paragraph above. If it is not feasible to cut slots in the bench (or table), we recommend that you mount the motor on one of our Adjustable Motor Rails (refer to Sears Catalog) having a maximum belt take-up of 2-1/2 inches.

#### *MOUNTING MOTOR BELOW GRINDER (See Fig. 1.)*

The motor supporting shelf mounted under the table should also have elongated slots cut out as described above. Belt length in this case is not too important, but it must be long enough to provide ample clearance between the motor top and the underside of the bench (or table) top. Make certain that the motor pulley is about 1-1/2 inches forward from the Grinder pulley. Our Adjustable Motor Rails can also be used very satisfactorily when mounting the motor in this location.

#### *Direction of Wheel Rotation*

Though your Grinder may be operated with the wheel rotating in either direction, we recommend that rotation be in the direction of the arrow shown on the wheel in figure 1. When rotating thus, excess water carried by the wheel surface from the reservoir is wiped off by the Neoprene Roller — leaving just enough water on the surface for perfect wet grinding, without water splash. If rotated in the opposite direction, the wheel carries all this excess water up to the work, resulting in a messy operation.

#### *OPERATION*

##### *Proper Use of Water (See Fig. 1.)*

**DO NOT OVERFILL WITH WATER.** Figure 1 shows the proper water level. All that is necessary is to keep the surface of the grinding wheel moist (not wet). Too much water simply makes for an unnecessarily messy operation.

#### *CAUTION*

Drain the water each time after use — and refill later, even if you are to re-use your grinder in a few hours. Standing water may soften the grinding wheel at point of contact. Furthermore, if water should freeze in the housing it may crack the wheel, or even the base casting. To drain, remove the Drain Plug (*fig. 1*).

##### *Care of Your Grinding Wheel*

Your Grinding Wheel is a natural wetstone — the finest obtainable. It is superior for keen-edged sharpening of fine-tempered blades, will give excellent service if properly treated. Because it is operated at much slower speed than a dry stone, the

danger of overheating (and drawing the temper from) your work is practically eliminated.

Never operate the Grinder dry, for this will "load-up" the stone with metal and greatly reduce its efficiency. Never apply too much pressure on the tool when grinding. Several light passes are better than one heavy pass. Using a wet grindstone is very much like honing; it requires several light passes to obtain a keen cutting edge. Do not "dig" the tool into the soft stone. Nothing is gained by doing so, and the stone will wear down unnecessarily and become unbalanced.

If the stone becomes ridged, rounded, out-of-true, or "loaded" it can be restored to a true flat usable surface by dressing it. *Don't* use a steel wheel dresser. Steel is too hard. Instead, use a piece from an old discarded wetstone or emery stone, or a chunk of cement. Rest the "dressing stone" on the tool rest and work it from side to side across the face of the revolving wheel until the wheel is clean, straight and smooth.

##### *Using the Tool Rest (See Fig. 1.)*

The tool rest should be used for every possible grinding operation. With the work against the rest you have better control of the operation — can obtain truer bevel edges with correct angles. The rest should be as close to the wheel face as the work permits (within 1/2 in., generally). The angle between the tool rest face and the wheel face should be the same as the bevel angle to be ground. Thus, the work can be held flat on the rest — and the correct angle will be ground. To position the tool rest, loosen the Tool Rest Adj. Bolt, then re-tighten the bolt securely.

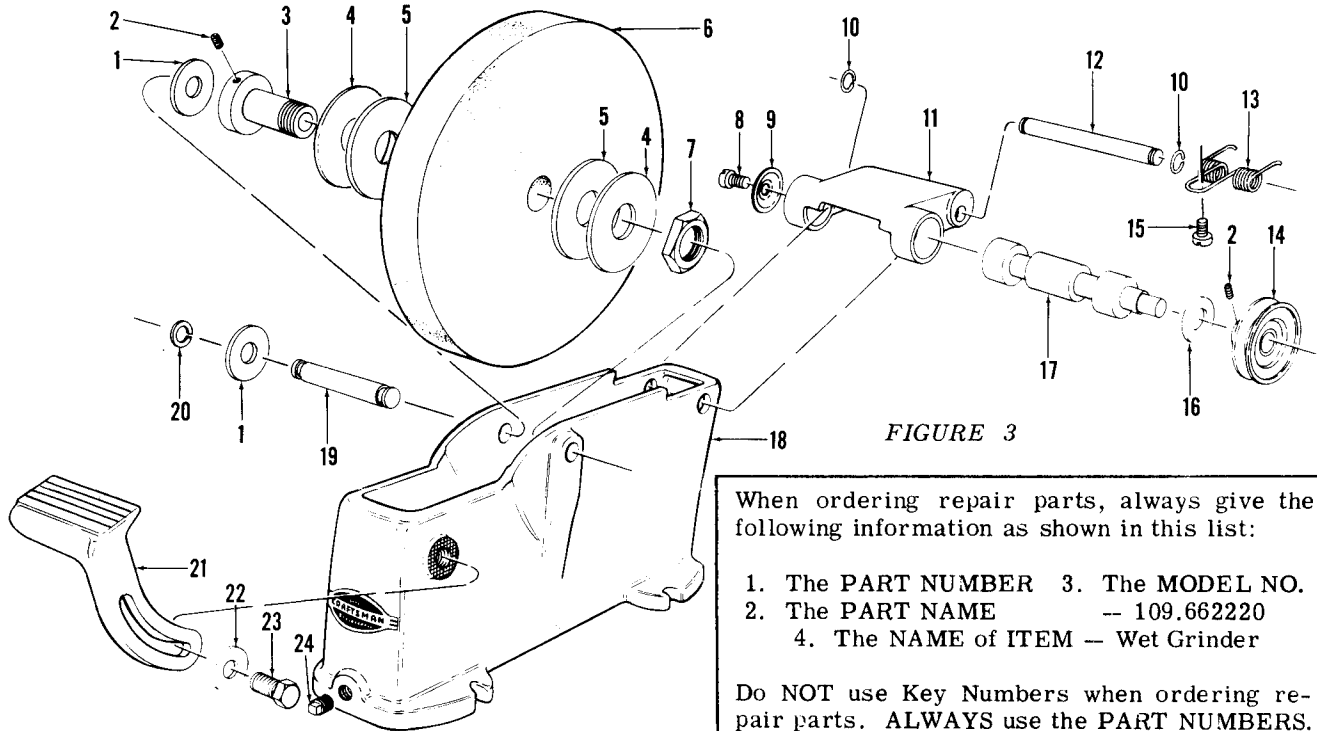
#### *INSTALLING A NEW GRINDING WHEEL (See Fig. 3.)*

*To Remove:* Loosen the Socket-Hd. Set screw (2). Pull out the Steel Shaft (19) from the left side, without removing the Retaining Shaft Ring (20) or Brass Washer (1). At the same time lift out Grinding Wheel (6). Save the second Brass Washer (1) that is mounted inside of the base casting. With the wheel assembly now out of the casting unscrew the Wheel Bushing Lock Nut (7) and draw out the Wheel Bushing (3), also freeing the two Wheel Clamp Washers (4) and Blotter (5).

*To Install:* Mount one Steel Washer (4) and one Blotter (5) on the Wheel Bushing (3). Insert and center the Wheel Bushing (3) by eye into hole of your new Grinding Wheel (6). Slip on the second Blotter (5) and the second Steel Washer (4), then screw on the Wheel Bushing Lock Nut (7) finger tight only. To center the wheel this may take four or five tries. For testing trueness insert Wheel Assembly into casting and hold in place with Wheel Bushing (3). Rotate the wheel by hand for trueness which can be determined by holding a pencil point in a fixed position against the face of the grinding wheel. If the wheel does not run true, repeat the above process by again removing the Wheel Bush-

*(continued at bottom of page 4)*

# PARTS LIST FOR CRAFTSMAN WET GRINDER, MODEL NO. 109.66220



When ordering repair parts, always give the following information as shown in this list:

1. The PART NUMBER
2. The PART NAME
3. The MODEL NO. -- 109.662220
4. The NAME of ITEM -- Wet Grinder

Do NOT use Key Numbers when ordering repair parts. ALWAYS use the PART NUMBERS.

KEY NO.	PART NO.	DESCRIPTION	KEY NO.	PART NO.	DESCRIPTION
1	SP-1140	Brass Washers (2)	14	11515	*2-1/2-In. Dia. x 1/2-In. Bore V-Belt Pulley
2	SP-768	*5/16-18 x 3/8 Soc-Hd. Set Screw (2)	15	SP-613	*10-32 x 5/16 Rd-Hd. Screw
3	1504	Wheel Bushing	16	11504	Steel Washer
4	1506	Wheel Clamp Washer (2)	17	11503A	Neoprene Driver and Shaft Assy.
5	11516	Blotters (2)	18	11500	Base Casting
6	1510	Grinding Wheel	19	11506	Steel Shaft
7	1505	Wheel Bushing Lock Nut	20	SP-2507	Retaining Shaft Ring
8	SP-616	*1/4-20 x 1/2 Rd-Hd. Screw	21	1403	Tool Rest
9	11505	Steel Washer	22	SP-1135	*3/8 U.S.S. Steel Washer
10	SP-2520	Retaining Shaft Ring (2)	23	SP-540	*3/8-16 x 3/4 Hex-Hd. Cap Screw
11	11501	Drive Shaft Housing	24	SP-1301	*1/8-27 Pipe Plug
12	11502	Steel Shaft	‡	11510	Instruction Sheet and Parts List
13	11509	Spring			

\*Standard hardware item. May be purchased locally.  
 ‡Not illustrated.

ing (3) and adjust wheel on the Wheel Bushing until such time as it does run true, again remove and tighten the Lock Nut (7). Insert the Steel Shaft (19) with one Brass Washer, into the left bored hole of the base casting, pushing it in just far enough to slip the second Brass Washer (1) over the end that is now inside the wheel trough. Lower the prepared stone assembly into the trough with the Wheel Bushing Lock Nut (7) at the right side - and push the Steel Shaft (19) in through the Wheel Bushing (3) and through the right bored hole of

the base casting. Rotate the Steel Shaft (19) and wheel until the Set Screw (2) is at top. Press the shaft as far as it will go to the right and the stone as far as it will go to the left, then tighten the set screw.

*After Installing Replacement Stone - and Before Using:* To obtain absolute trueness of the grinding wheel it may be necessary to "dress" the face of the stone. Follow instructions as shown in the last paragraph on CARE OF YOUR GRINDING WHEEL.