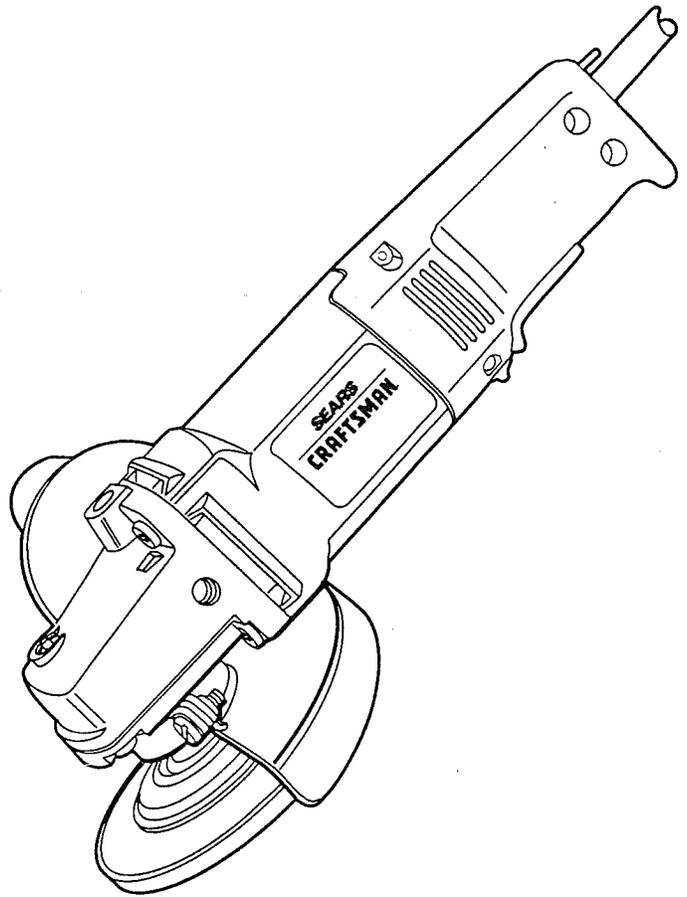


SEARS

INSTRUCTION
MANUAL

MODEL NO.
900.277230



CRAFTSMAN®

4 1/2" ANGLE GRINDER

CAUTION:
Read Rules for
Safe Operation
and Instructions
Carefully

Introduction
Operation
Maintenance
Repair Parts

FULL ONE YEAR WARRANTY ON SEARS 4 1/2" ANGLE GRINDER

If this Sears Angle Grinder fails to give complete satisfaction within one year from the date of purchase, return it to any Sears store in the United States and Sears will repair it or replace it, free of charge.

If this Sears Angle Grinder is used for commercial or rental purposes, the warranty applies for only ninety (90) days from the date of purchase.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

SEARS, ROEBUCK AND CO., D817WA, HOFFMAN ESTATES, IL 60179

INTRODUCTION

Designed with all of the rugged dependability for which Sears is famous, your new grinder is sure to give you years of reliable service. Features like Double Insulation, a built-in Spindle Lock, and an included Depressed Center Wheel (so you're ready to work right

away) make your new grinder a real value for grinding and sanding most metals and masonry. Please take the time to read this informative instruction manual and pay particular attention to the safety instructions we've included for your protection.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using electric tools, basic safety precautions should always be followed to reduce risk of fire, electric shock, and personal injury, including the following:

READ ALL INSTRUCTIONS

DOUBLE INSULATION

Double insulated tools are constructed throughout with two separate layers of electrical insulation or one double thickness of insulation between you and the tool's electrical system. Tools built with this insulation system are not intended to be grounded. As a result, your tool is equipped with a two prong plug which permits you to use extension cords without concern for maintaining a ground connection.

NOTE: Double insulation does not take the place of normal safety precautions when operating this tool. The insulation system is for added protection against injury resulting from a possible electrical insulation failure within the tool.

CAUTION: WHEN SERVICING USE ONLY IDENTICAL REPLACEMENT PARTS. Repair or replace damaged cords.

POLARIZED PLUGS

Polarized plugs (one blade is wider than the other) are used on equipment to reduce the risk of electric shock. When provided, this plug will fit into a polarized outlet only one way. If the plug does not fit fully into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

SAFETY INSTRUCTIONS FOR ALL TOOLS

1. **KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
2. **CONSIDER WORK AREA ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit. Do not use tool in presence of flammable liquids or gases.
3. **GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, and refrigerator enclosures.
4. **KEEP CHILDREN AWAY.** Do not let visitors contact tool or extension cord. All visitors should be kept away from work area.
5. **STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
6. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.

7. **USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended.
8. **DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
9. **USE SAFETY GLASSES.** Also use face or dust mask if operation is dusty.
10. **DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
11. **SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
14. **DISCONNECT OR LOCK OFF TOOLS** when not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
15. **REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
16. **AVOID UNINTENTIONAL STARTING.** Don't carry tool with finger on switch. Be sure switch is off when plugging in.
17. **EXTENSION CORDS.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

Minimum Gage for Cord Sets

Volts	Total Length of Cord in Feet			
	0-25	26-50	51-100	101-150
120V	0-25	26-50	51-100	101-150
240V	0-50	51-100	101-200	201-300
Ampere Rating		AWG		
More Than	Not more Than			
0	- 6	18	16	16
6	- 10	18	16	14
10	- 12	16	16	14
12	- 16	14	12	Not Recommended

19. **OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
20. **STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
21. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.

ADDITIONAL SAFETY INSTRUCTIONS FOR GRINDERS

1. **ALWAYS WEAR EYE PROTECTION.**
2. **KEEP GUARDS IN PLACE.**
3. Use only grinding wheels having a maximum operating speed at least high as "No Load RPM" marked on the tool's nameplate.
4. Before using, inspect recommended accessory for cracks or flaws. If such a crack or flaw is evident, discard the accessory. The accessory should also be inspected whenever you think the tool may have been dropped.
5. When starting the tool (with a new or replacement wheel installed) hold the tool in a well protected area and let it run for one minute. If the wheel has an undetected crack or flaw, it should burst in less than one minute. Never start the tool with a person in line with the wheel. This includes the operator.
6. In operation, avoid bouncing the wheel or giving it rough treatment. If this occurs, stop the tool and inspect the wheel.
7. **ALWAYS USE GUARDS** with depressed center wheels or flaring cup grinding wheels.
8. Clean your tool out periodically.
9. **CAUTION:** Some wood contains preservatives such as copper chromium arsenate (CCA) which can be toxic. When sanding these materials extra care should be taken to avoid inhalation and minimize skin contact.

SAVE THESE INSTRUCTIONS

SWITCH OPERATION (FIG. 1)

To start the grinder push the Switch Lock-Off Button forward and squeeze the trigger switch. To turn the tool off, release the switch. To lock the switch on for continuous operation, depress the trigger switch and hold while you push in the Lock-On button at the end of the handle shown in Figure 1. Hold the Lock-On button in as you release the trigger switch. To turn the tool off from a locked on position, squeeze and release the trigger switch once. **DO NOT STORE THE TOOL WITH THE SWITCH LOCKED ON...** To do so will cause the tool to start immediately the next time it is plugged in. Damage or personal injury may result.

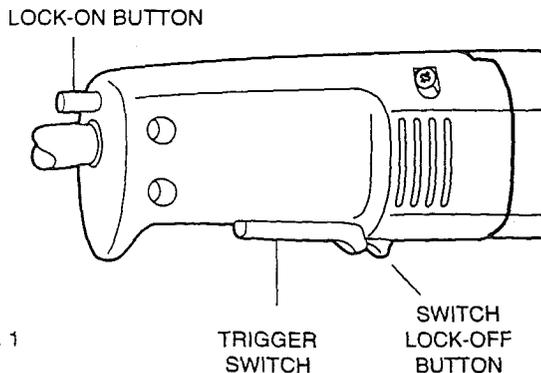


FIG. 1

AUXILIARY HANDLE (FIG. 2)

An auxiliary handle is furnished with your grinder and can be screwed into either side or the top of the front housing, as shown in Figure 3. This handle **SHOULD BE USED AT ALL TIMES** to maintain complete control of the tool.

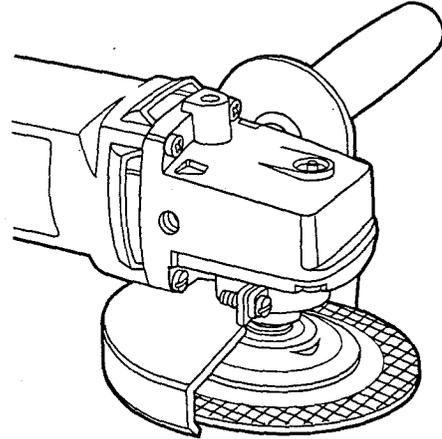


FIG. 2

OPERATION
SANDING WITH ABRASIVE DISCS (FIG. 3)
TO INSTALL ABRASIVE DISCS:

Be sure that the tool is turned off and unplugged. Push the hub of the Disc Nut through the center of the Sanding Disc, as far as it will go, and also through the Backing Disc. Put the assembled discs on the tool spindle and engage the Disc Nut into the Disc Nut Hub. Thread the assembly clockwise, completely down on the spindle. Engage the lock pin to lock the spindle in place.

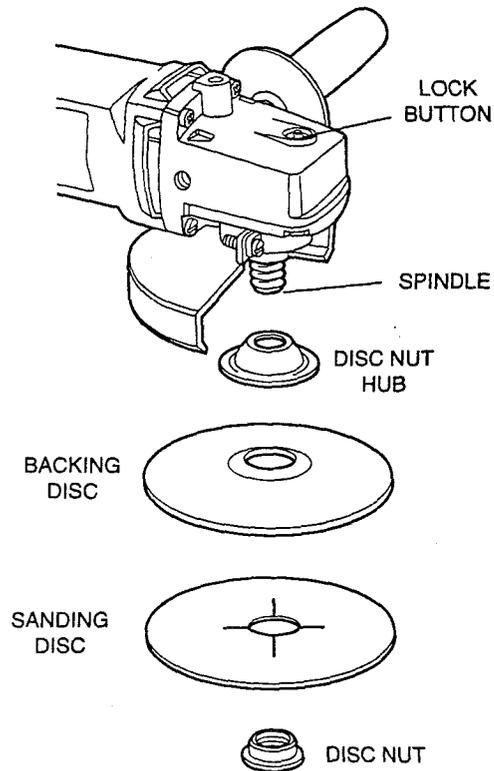


FIG. 3

When using an abrasive disc, hold the tool so that an angle of 10° to 15° exists between the disc and the work, as shown in Figure 4. If only the outer edge of the sanding disc is used a rough cut surface will result. If the sanding disc is pressed flat against the work the sanding action will be irregular and bumpy, and the tool will be difficult to control.

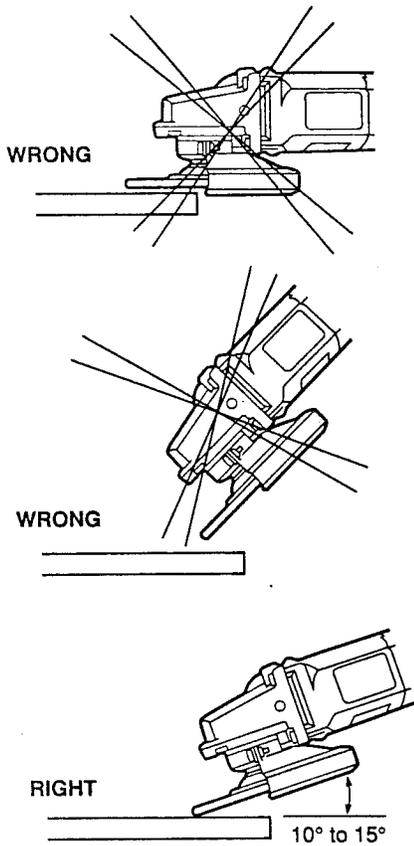


FIG. 4

REMOVING DISC

TURN OFF AND UNPLUG TOOL

Using a cloth or glove to protect your hand, turn the disc assembly counter-clockwise to remove it from the tool spindle. Hold the spindle in place by engaging the Lock Pin.

GRINDING WITH DEPRESSED CENTER WHEELS (FIG. 5)

Depressed center wheels may be used for moderate metal removal on flat or contoured surfaces.

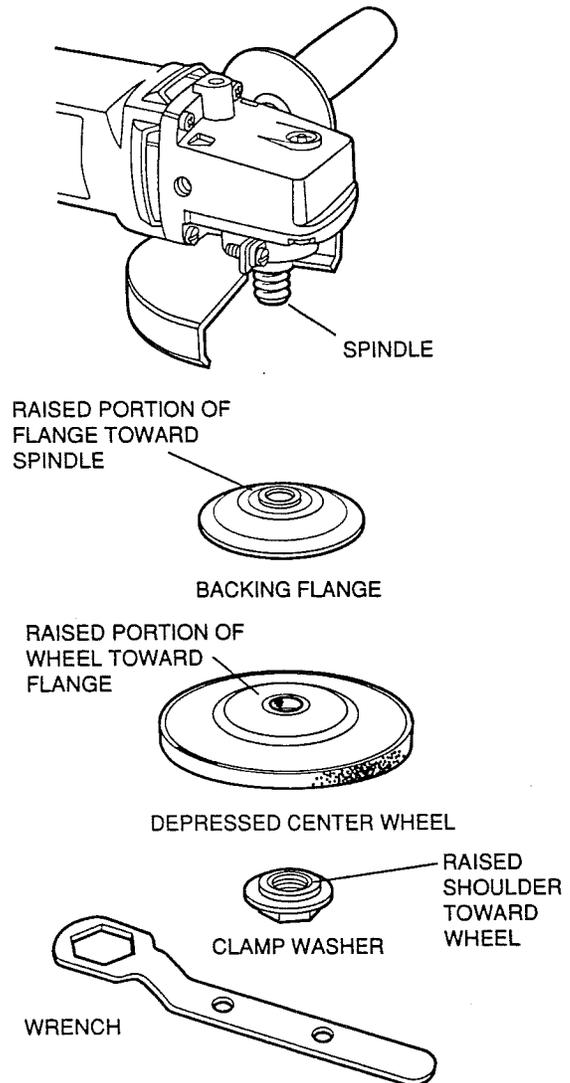
CAUTION: Never use Depressed Center Wheels without the proper guard.

TO INSTALL DEPRESSED CENTER WHEELS:

1. Be sure tool is disconnected from power supply and switch is in "OFF" position.
2. Be sure the guard assembly is securely attached to the spindle housing.
3. Put the backing flange onto the tool spindle as shown.
4. Check rated speed on depressed center wheel. Never use wheel with rated speed lower than the speed in the on the nameplate of the tool.
5. Place the Depressed Center Wheel on the tool spindle as shown.
6. Thread the Clamp Washer on tool spindle as shown. Hold the tool spindle by engaging the Lock Pin, and tighten Clamp Washer with Wrench.

When using a Depressed Center Wheel, hold the tool so that an angle of approximately 30° exists between the wheel and the work.

FIG. 5



WIRE CUP AND KNOTTED WIRE WHEEL BRUSHES

Common applications for knotted wire cup brushes include cleaning welds, angles, corners and paint removal. Usage of the knotted wire wheel brush is the same as the wire cup brush. They can also be used to finish irregular surfaces and corners.

1. Disconnect tool from power source. Rest Grinder on its back with spindle facing up.
2. Ensure that the rated speed of the wire brush is equal to or higher than the rated speed of the grinder found on the nameplate.
3. Thread wire cup brush onto spindle and tighten.

MAINTENANCE OF TOOL

CLEANING

Blowing dust and grit out of the motor housing using compressed air is a necessary regular maintenance procedure. Dust and grit containing particles from metal grinding often accumulate on interior surfaces and could create an electrical shock hazard if not frequently cleaned out.

CAUTION: Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. Use clean, dry rag only.

LUBRICATION

Sears tools are properly lubricated at the factory and are ready for use. Tools should be relubricated regularly every sixty days to six months, depending on usage. (Tools used constantly on production or heavy-duty jobs and tools exposed to heat may require more frequent lubrication.) This lubrication should only be attempted by trained power tool repairpersons such as those at Sears Service Centers or in other qualified service organizations.

MOTOR BRUSHES

Your tool is equipped with a special brush system. When the brushes become worn out, the tool will automatically stop and prevent damage to the motor. Brush replacement should be performed by Sears Service Centers or other qualified service organizations.

RECOMMENDED ACCESSORIES

See your local Sears Store for a wide array of accessories.

Accessory Type	Notes	Usages
* DEPRESSED CENTER WHEELS	USE GUARD SUPPLIED WITH TOOL	Use for moderate metal & masonry removal on flat or contoured surfaces.
SANDING DISCS		Use for smoothing welds, and sharp edges, and automotive body work.
WIRE BRUSHES	MAX. 4" KNOTTED WHEEL MAX. 3" CUP WHEEL	Use for rust removal and surface preparation before painting.

*Depressed Center Grinding Wheels must fit within the confines of the guard and must be rated higher than the recommended speed as marked on the nameplate.

WARNING—For safe operation, always use proper guards when grinding and wear eye protection.

CAUTION: The use of any other accessory or attachment other than those recommended in this manual may be hazardous.

IMPORTANT

To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment, (including brush inspection and replacement) should be performed by Sears Service Centers or other qualified service organizations, always using Sears replacement parts.

The Model Number will be found on the Nameplate. Always mention the Model Number in all correspondence regarding your tool.

PARTS LIST

(PARTS SHOWN FOR REFERENCE ONLY)

ITEM NO.	PART NO.	DESCRIPTION	QTY	ITEM NO.	PART NO.	DESCRIPTION	QTY
φ1	150320-00	Armature & Fan (Incl. 8, 10, 11, 12)	1	37	149142-00	Side Handle	1
2	150050-00	Field (Incl. 13)	1	φ38	445886-00	Field Case	1
3	445861-03	Brush & Lead	2	39	449559-00	Washer	1
4	445860-00	Brush Spring	2	40	445882-99	Contact Strip	2
5	449899-00	Brush Ring	1	41	450733-00	Guard	1
7	147789-00	Switch	1	42	146954-00	Guard Clamp	1
8	330073-98	Cord & Plug (18-2 SJT)	1	43	38751-00	Retaining Ring	1
φ9	330003-03	Ball Bearing	1	44	151145-00	Slide	1
φ10	330003-17	Ball Bearing	1	PARTS NOT SHOWN: (Supplied with Unit)			
11	150057-00	Bearing Retainer	1	87891-00	Heat Shrink Tube	1	
12	444793-00	Retaining Ring	1	147853-01	Wrench	1	
13	445880-00	Plastite Screw	2	314842-09	4 1/2" Depressed Center Wheel (27723 Qty. 1) (27726 Qty. 2)	1	
14	464228-00	Terminal	1	158818-03	Instruction Manual	1	
15	150536-00	Nameplate	1	LUBRICATION:			
16	146929-00	M4 x 13 Screw	4	Distribute 1.0 oz. (28 grams) of Polyrex grease in gear case. Fill gear teeth.			
17	330019-13	Plastite Screw	8	EXTRA EQUIPMENT: (Not Supplied With Unit)			
18	99284-08	10-32 x 1/2" Screw	2	283484-00	Polyrex Grease (32 oz.)		
19	445217-02	Sleeve	1	761995-00	Polyrex Grease (6 oz.)		
20	700248-00	O-Ring	1	NO LOAD TEST SPECIFICATIONS:			
21	149480-00	Clamp Nut (5/8-11 Thread)	1	AMPS	SPEED	MIN.	MAX.
22	448156-01	Back-up Flange	1	2.4	3.2	9,000	11,500
23	150236-00	Identification Label	1	IMPORTANT! To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment should be performed by Sears Service Centers or other qualified service organizations, always using Sears replacement parts.			
24	147809-00	Spring	2	When servicing Double Insulated Tools, it is extremely important that ONLY IDENTICAL REPLACEMENT PARTS BE USED and that REASSEMBLY OF TOOL IS IDENTICAL TO THE ORIGINAL ASSEMBLY.			
25	147722-00	Lock Button	1	Model No.	Volts	Amps	RPM
26	147723-01	Switch Trigger	1	900.277230	120	6.0	10,000
27	445876-00	Fan Baffle	1				AC/DC
28	147727-04	Handle & Cover	1				
φ29	see notes	Pinion (12 Teeth)	1				
φ30	see notes	Gear Case Cover Assembly	1				
31	150323-00	Gear Case & Lock Pin	1				
32	151144-00	Actuator	1				
33	701901-00	Retaining Ring	1				
34	50050-00	O-Ring	1				
35	36826-00	Sleeve Bearing	1				
36	330005-01	Cord Protector	1				

φ NOTES:

- 1 Coat armature spines with grease.
- 9 Press flush with end of shaft; seal to face fan.
- 10 Press to retaining ring; seal to face pinion.
- 29,30 For Date Codes before 9421; 152487-01 pinion & 445865-09 gear case cover assembly must be replaced together. After replacing, mark an "R" behind date code to identify reworked units.
- Date Codes 9421 and later, or ones marked with an "R", can replace items individually. See SDB 5959.
- 38 Date Code on bottom.

NO LOAD TEST SPECIFICATIONS:

AMPS	SPEED
MIN.	MAX.
2.4	3.2
	9,000
	11,500

IMPORTANT! To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment should be performed by Sears Service Centers or other qualified service organizations, always using Sears replacement parts.

When servicing Double Insulated Tools, it is extremely important that ONLY IDENTICAL REPLACEMENT PARTS BE USED and that REASSEMBLY OF TOOL IS IDENTICAL TO THE ORIGINAL ASSEMBLY.

Model No.	Volts	Amps	RPM
900.277230	120	6.0	10,000
			AC/DC

5/95TS

SEE BACK PAGE FOR PARTS ORDERING INSTRUCTIONS

SEARS

INSTRUCTION
MANUAL

SERVICE

MODEL NO.
900.277230

HOW TO ORDER
REPAIR PARTS

158818-03

CRAFTSMAN®

4 1/2" ANGLE GRINDER

Now that you have purchased your 4 1/2" Angle Grinder, should the need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores. Be sure to provide all pertinent facts when you call or visit.

The model number of your 4 1/2" Angle Grinder will be found on the plate attached to the field case.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- | | |
|----------------------|----------------|
| • PART DESCRIPTION | • PART NUMBER |
| • NAME OF ITEM | • MODEL NUMBER |
| 4 1/2" Angle Grinder | 900.277230 |

All parts listed may be ordered from any Sears Service Center and most Sears stores.

If the parts you need are not in stock locally, your order will be electronically transmitted to a Sears Repair Parts Distribution Center for handling.