

# 690

## OPERATOR'S MANUAL

- Français - 11
- Castellano - pág. 23

# Portable Power Drive



### **⚠ WARNING!**

Read this Operator's Manual carefully before using this tool. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury

# RIDGID®

## Table of Contents

<b>Recording Form for Machine Model and Serial Number</b> .....	1
<b>General Safety Information</b>	
Work Area Safety .....	2
Electrical Safety .....	2
Personal Safety .....	2
Tool Use and Care .....	2
Service .....	3
<b>Specific Safety Information</b>	
Power Drive Safety .....	3
<b>Description, Specifications and Standard Equipment</b>	
Description .....	3
Specifications .....	3
Standard Equipment .....	3
Accessories .....	4
<b>Power Drive Inspection</b> .....	4
<b>Tool And Work Area Set-Up</b> .....	5
<b>Operating Instructions For Threading with Drop Head Die Heads</b>	
Installation of Adapter .....	5
Threading with 11R Die Head .....	6
<b>Maintenance Instructions</b>	
Motor Brush Replacement .....	7
<b>Accessories</b> .....	7
<b>Tool Storage</b> .....	7
<b>Service and Repair</b> .....	8
<b>Troubleshooting</b> .....	9
<b>Wiring Diagram</b> .....	10
<b>Lifetime Warranty</b> .....	Back Cover



# 690 Portable Power Drive



<b>690 Portable Power Drive</b>	
Record Serial Number below and retain product serial number which is located on nameplate.	
Serial No.	

## General Safety Information

**WARNING!** Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious personal injury.

**SAVE THESE INSTRUCTIONS!**

### Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
- **Do not operate tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Tools create sparks which may ignite the dust or fumes.
- **Keep by-standers, children, and visitors away while operating a tool.** Distractions can cause you to lose control.
- **Keep floors dry and free of slippery materials such as oil.** Slippery floors invite accidents.

### Electrical Safety

- **Double insulated tools are equipped with a polarized plug (one blade is wider than the other).** This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. **Do not change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded supply system.
- **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electrical shock if your body is grounded.
- **Do not expose electrical tools to rain or wet conditions.** Water entering a tool will increase the risk of electrical shock.
- **Do not abuse cord. Never use the cord to pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electrical shock.
- **When operating a tool outside, use an outdoor extension cord marked “W-A” or “W”.** These cords are rated for outdoor use and reduce the risk of electrical shock.
- **Use proper extension cords.** (See Chart) Insufficient conductor size will cause excessive voltage drop and loss of power.

Minimum Wire Gauge for Extension Cord			
Nameplate Amps	Total Length (in feet)		
	0 – 25	26 – 50	51 – 100
0 – 6	18 AWG	16 AWG	16 AWG
6 – 10	18 AWG	16 AWG	14 AWG
10 – 12	16 AWG	16 AWG	14 AWG
12 – 16	14 AWG	12 AWG	NOT RECOMMENDED

- **Keep all electric connections dry and off the ground. Do not touch plugs or tool with wet hands.** Reduces the risk of electrical shock.

### Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol or medications.** A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is OFF before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch ON invites accidents.
- **Remove adjusting keys or wrenches before turning the tool ON.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat or hearing protection must be used for appropriate conditions.

### Tool Use and Care

- **Use clamp or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the same rate for which it is designed.
- **Do not use if switch does not turn the tool ON or OFF.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.

- **Disconnect the plug from the power source before making any adjustments, changing accessories or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally.
- **Store idle tools out of the reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- **Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
- **Use only accessories that are recommended for your tool.** Accessories that may be suitable for one tool may become hazardous when used on another tool.
- **Keep handles dry and clean; free from oil and grease.** Allows for better control of the tool.

**Service**

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified repair personnel could result in injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance Section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electrical shock or injury.

**Specific Safety Information**

**▲ WARNING**

**Read this operator's manual carefully before using the 690 Power Drive. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.**

Call the Ridge Tool Company, Technical Service Department at (800) 519-3456 if you have any questions.

**Power Drive Safety**

- **The Power Drive is made to turn threaders. Follow instructions in this Operator's Manual on proper use when threading.** Other uses may increase the risk of serious injury.
- **When threading 3/4" or larger pipe, secure Power Drive using the No. 691 Support Arm. Hold Power**

**Drive firmly. If the Power Drive cannot be secured by a Support Arm, use other mechanical means.** Resists high handle forces developed during use and prevents losing control of the tool.

– Only use the aluminum gear case to secure the power drive. Using the motor housing or handle may result in damaging or breaking these parts.

- **Do not use dull or damaged dies.** Sharp cutting tools require less torque and the Power Drive is easier to control.
- **Do not use this Power Drive if ON/OFF switch is broken.** This switch is a safety device that lets you shut off the motor by releasing the switch.
- **Do not wear gloves or loose clothing when operating Power Drive. Keep sleeves and jackets buttoned.** Clothing can be caught, resulting in entanglement and serious injury.

**Description, Specifications and Standard Equipment**

**Description**

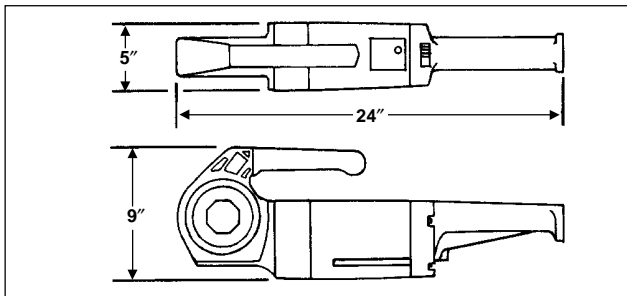
The RIDGID Model 690 Power Drive is a double insulated drive which provides power for threading pipe, conduit, and rod (bolt stock). Forward and Reverse rotation can be selected with a REV/FOR switch while ON/OFF is controlled by a paddle switch that cuts off power when released.

The Power Drive is designed to use RIDGID 11R Drop Head Die Heads (1/8" – 2" pipe). An adapter is required for the 1/8" – 1 1/4" sizes. The manual 418 Oiling System is available to flood the work during the threading operations. The No. 691 Support Arm should be used to secure the Power Drive and resist high handle forces developed when threading 3/4" or larger pipe with drop head die heads.

**Specifications/Standard Equipment**

Pipe .....	11R Drop Head Die Heads: 1/2" - 2" (3mm – 50mm)
Motor:	
Type .....	Universal
Volts .....	115V Single Phase AC, 50-60 HZ
Amps .....	12 amps
Watts .....	1400

- Switches  
ON/OFF .....Heavy Duty Paddle Type with Safety Locking Device
- Directional .....FOR/REV Switch
- Gear Head.....Die Cast Aluminum Housing, Permanently Greased
- Length .....24" (61cm)
- Weight .....19 lbs. (8.6 kg)
- No. 691 Support Arm.....Absorbs Power Drive Handle Forces
- Die Head Adapter.....Used with 1/8" through 1 1/4" Die Heads



**Figure 1 – 690 Power Drive Dimensions**

Catalog No.	Model No.	Description	Weight	
			lb.	kg.
16708	690	115V Kit less Die Heads w/Case and Support Arm	35	15.8
16013	690	115V 1/2" - 2" NPT w/Case and Support Arm	52.5	24
16718	690	220V, 1/2" - 2" NPT w/Support Arm, Export	52.5	24

**Accessories**

- No. 11-R Die Heads (9)...1/8", 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
- No. 418 Oiler .....Oiler with 1 Gallon RIDGID Thread Cutting Oil
- No. 691 Support Arm.....Absorbs Power Drive Handle Forces
- Carrying Case .....For Power Drive and Die Heads
- Die Head Adapter .....Used with 1/8" through 1 1/4" Die Heads

**Power Drive Inspection**

**▲ WARNING**



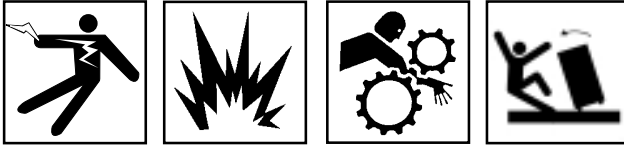
**To prevent serious injury, inspect your Power Drive. The following inspection procedures should be performed on a daily basis:**

1. Make sure Power Drive is unplugged.
2. Inspect the power cord and plug for damage. If the plug has been modified or if the cord is damaged, do not use the Power Drive until the cord has been replaced.
3. Inspect the Power Drive for any broken, missing, misaligned or binding parts as well as any other conditions which may affect the safe and normal operation of the tool. If any of these conditions are present, do not use the Power Drive until any problem has been repaired.
4. Use tools and accessories that are designed for your Power Drive and meet the needs of your application. The correct tools and accessories allow you to do the job successfully and safely. Accessories suitable for use with other equipment may be hazardous when used with this Power Drive.
5. Clean any oil, grease or dirt from all equipment handles and controls. This reduces the risk of injury due to a tool or control slipping from your grip.
6. Inspect the cutting edges of your dies. If necessary, have them replaced prior to using the Power Drive. Dull or damaged dies can lead to binding and poor quality threads.
7. Clean metal shavings and other debris from the chip pan of the 418 Oiler. Check the level and quality of the thread cutting oil. Replace or add oil if necessary.

**NOTE!** Thread cutting oil lubricates and cools the threads during the threading operation. A dirty or poor grade cutting oil can result in poor thread quality.

## Tool and Work Area Set-Up

**▲ WARNING**



To prevent serious injury, proper set-up of the Power Drive and work area is required. The following procedures should be followed to ensure proper set-up of the tool.

1. Locate a work area that has the following:
  - Adequate lighting
  - No flammable liquids, vapors or dust that may ignite.
  - Clear path to the electrical outlet that does not contain any sources of heat or oil, sharp edges or moving parts that may damage electrical cord.
  - Dry place for operator. Do not use the Power Drive while standing in water.
  - Level ground for trisland vise and pipe stands.
2. Clean up the work area prior to setting up any equipment. Always wipe up any oil that may have splashed or dripped from the oiler to prevent slips and falls.
3. Plug the Power Drive into the electrical outlet making sure to position the power cord along the clear path selected earlier. If the power cord does not reach the outlet, use an extension cord in good condition.

**▲ WARNING** To avoid electrical shock and electrical fires, never use an extension cord that is damaged or does not meet the following requirements:

- The cord is rated as “W” or “W-A” if being used outdoors.
- The cord has sufficient wire thickness (14 AWG below 25’/12 AWG 25’ - 50’). If the wire thickness is too small, the cord may overheat, melting the cord’s insulation or causing nearby objects to ignite.

**▲ WARNING** To reduce risk of electrical shock, keep all electrical connections dry and off the ground. Do not touch plug with wet hands.

4. Check the Power Drive to insure it is operating properly.
  - Depress the paddle switch and safety lock making sure the Power Drive stops when releasing the switch.

- Depress and hold the switch. Inspect the moving parts for misalignment, binding, odd noises or any other unusual conditions that may affect the safe and normal operation of the tool. If such conditions are present, have the Power Drive serviced.
- Flip the directional switch to the opposite direction. Check that that Power Drive rotates in an opposite direction.

**CAUTION** Change position of the directional switch only when motor is switched OFF.

## Operating Instructions For Threading with 11-R Die Heads

**▲ WARNING**



**Do not wear gloves or loose clothing when operating Power Drive. Keep sleeves and jackets buttoned.**

**Do not use this Power Drive if switches are broken. Always wear eye protection to protect eyes from dirt and other foreign objects.**

**When threading pipe 3/4” or larger, use the No. 691 Support Arm to resist high handle force developed during threading.**

### Installation of Adapter

Adapter is required for 1/8” through 1 1/4” 11-R Die Heads. Push Adapter into Power Drive until spring engages securely (Figure 2). Installation can be made from only one side of the Power Drive.



Figure 2 – Installation of 11-R Die Head Adapter

**Threading with 11-R Die Head**

1. For 1½" - 2" 11-R Die Heads, push die heads, spline end first, squarely into the Power Drive until the spring engages securely (Figure 3). For ½" - 1¼" 11-R Die Heads, push die heads into adapter spline end first, until spring engages in notches.

NOTE! Installation can be made from only one side of the Power Drive.



Figure 3 – Installing No. 11-R Die Heads

2. If possible, secure the pipe in a portable trifold vise or a bench vise.

**⚠ WARNING** To prevent tipping, long lengths of pipe should also be supported with pipe stand.

3. Be sure the 418 Oiler is properly filled with RIDGID Thread Cutting Oil. Position the oiler in front of the vise.
4. Position No. 691 Support Arm on pipe so end of support arm is in line with end of the pipe (Figures 4 & 5). Make sure jaws squarely contact pipe and tighten handle firmly to prevent slipping of the jaws.

**⚠ WARNING** To avoid serious injury from losing control of the Power Drive, a support arm should be used when threading ¾" or larger pipe.

When threading pipe less than ¾" in size without a support arm, hold onto the Power Drive firmly with one hand to exert pressure against the handle forces developed during threading.

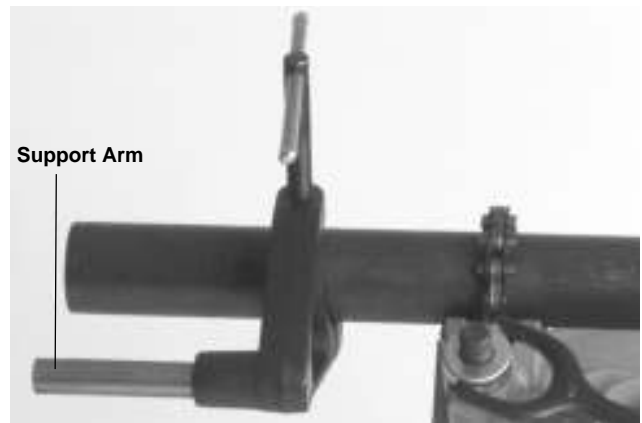


Figure 4 – Using No. 691 Support Arm When Threading ¾" Pipe and Larger

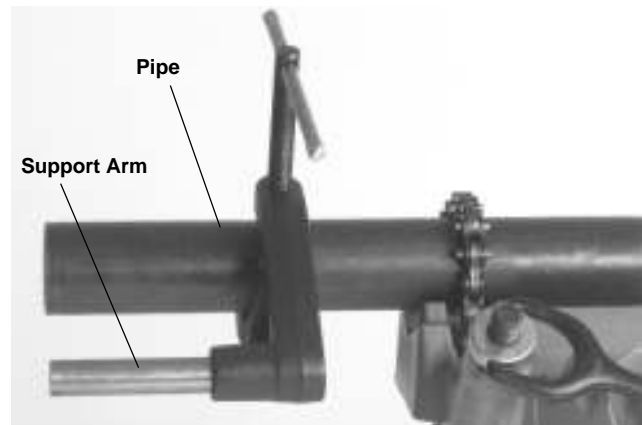


Figure 5 – Positioning No. 691 Support Arm In Line with End of Pipe

5. Position the directional switch for the desired right or left hand thread (Figure 6).

**⚠ CAUTION** Change position of the directional switch only when the motor is switched OFF.

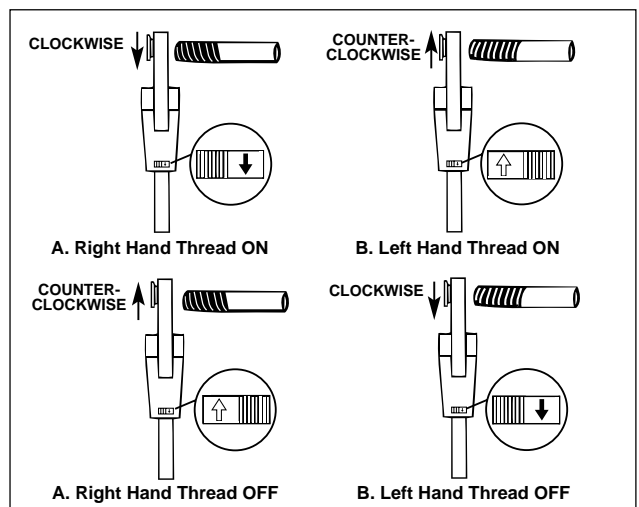


Figure 6 – Direction Change Switch/Die Head Orientation



6. Place Die Head over end of pipe and insert post of support arm through hole in gear case.

**▲ WARNING** For right hand threads, Die Head will rotate clockwise (looking at the face of the die head). Forces developed by the threading torque will be in the opposite (counter-clockwise) direction.

7. Simultaneously actuate the ON/OFF switch and exert pressure against the Die Head with the palm of free hand to assist in starting thread. Apply plenty of thread cutting oil to the dies during threading. This will reduce the torque required to thread and improve the thread quality (Figure 7).

8. Keep ON/OFF switch depressed until end of the pipe is even with edge of the dies. Release the switch button.



Figure 7 – Threading Pipe and Applying Oil

9. Back off the Die Head from the threaded pipe, reversing the directional switch and actuating the ON/OFF switch.

**▲ WARNING** Hold onto the Power Drive handle firmly to resist handle forces developed while backing off the Die Head.

10. When dies clear the end of the pipe, grip the handle on top of the Power Drive and remove the Power Drive and Die Head from the pipe.

11. Remove the support arm from the pipe and the pipe from the vise.

**▲ WARNING** To avoid injury, make sure long sections of pipe are supported at the end farthest away from the vise prior to removal.

12. Clean up any oil spills or splatter on the ground surrounding the vise and oiler.

## Maintenance Instructions

### ▲ WARNING

**Make sure machine is unplugged from power source before performing maintenance or making any adjustments.**

### Motor Brush Replacement

Check motor brushes every 6 months and replace brushes when they are worn to less than 1/4".

## Accessories

**▲ WARNING** Only the following RIDGID products have been designed to function with the 690 Power Drive. Other accessories suitable for use with other tools may become hazardous when used on this Power Drive. To prevent serious injury, use only the accessories listed below.

### Accessories For Power Drive

Catalog No.	Description
10883	418 Oiler with 1 Gallon of NU-Clear Thread Cutting Oil
43292	691 Support Arm
41620	Gearhead Motor Grease
39187	Adapter for 11-R
72037	460 Tristand Chain Vise

NOTE! See Ridge Tool catalog for listing of 11-R Die Heads, Pipe Supports, Vises and Thread Cutting Oil. No. 11-R Die Heads use 12-R Dies.

## Tool Storage

**▲ WARNING** Motor-driven equipment must be kept indoors or well covered in rainy weather. Store the Power Drive in a locked area that is out of reach of children and people unfamiliar with power drives. This power tool can cause serious injury in the hands of untrained users.

## Service and Repair

**▲ WARNING**

Service and repair work on this Power Drive must be performed by qualified repair personnel. Tool should be taken to a RIDGID Independent Authorized Service Center or returned to the factory. All repairs made by Ridge service facilities are warranted against defects in material and workmanship.

**▲ WARNING** When servicing this Power Drive, only identical replacement parts should be used. Failure to follow these steps may create a risk of electrical shock or other serious injury.

If you have any questions regarding the service or repair of this machine, call or write to:

Ridge Tool Company  
Technical Service Department  
400 Clark Street  
Elyria, Ohio 44035-6001  
Tel: (800) 519-3456  
E-mail: TechServices@ridgid.com

For name and address of your nearest Independent Authorized Service Center, contact the Ridge Tool Company at (800) 519-3456 or <http://www.ridgid.com>

## Troubleshooting

**WARNING:** Always unplug power cord before servicing Power Drive.

<b>PROBLEM</b>	<b>CAUSE</b>	<b>CORRECTION</b>
<b>Motor does not start</b>	Power drive unplugged Fuse blown Brushes do not touch armature	Plug into power source Install new fuse Check brushes, replace if worn
<b>Motor sounds overloaded</b>	Overload because of dull dies Bad quality or insufficient thread cutting oil	Replace dies Use RIDGID thread cutting oil in adequate quantity
<b>Sparks forming at motor</b>	Bad contact between brushes and brush holder Brushes do not touch commutator properly Brushes of different manufacture Sharp edge on brush	Tighten the screws, make sure brush is pressed firmly onto commutator Replace worn brushes Only use RIDGID brushes Break edge with sand paper
<b>Die head does not start threading</b>	Dull or broken dies Machine running in wrong direction Improperly set dies	Replace dies Check setting of the direction switch Reset dies
<b>Damaged Thread</b>	Dull dies Dies not assembled in correct sequence Low quality pipe Bad quality or insufficient thread cutting oil	Replace dies Put dies in correct sequence Make sure only pipe of good quality is used Use only RIDGID thread cutting oil in adequate quantity
<b>Support arm turns while threading</b>	Support arm feedscrew not tight Support arm jaws dirty Support arm not square on pipe	Tighten feedscrew Clean with wire brush Make sure sits square on pipe
<b>Die heads cannot be changed properly</b>	Burr has occurred at the spline end of the die head	Eliminate burr with file

### Wiring Diagram

