

# AEROPRO

## Ratchet Wrench



### 3/8" & 1/2" Square Drive

Designed with superior technology and manufactured with precision and high quality to deliver more power and a longer life.

- Ball bearing mounted air motor produces enough power for most requirements.
- Fully hardened planetary gears reduce friction for extended tool productivity.
- Comfortable composite grip handle.
- Ball socket retainer provides fast and easy socket replacement.
- Heat treated components for increased durability.
- Lightweight aluminium body.
- Compact head design allows flexibility in tight areas.
- Forward/reverse lever located behind the ratchet head for quick change of direction.
- Side exhaust.
- Recommended air pressure 90 psi.

Part Number	Square Drive	Capacity Bolt Size		Free Speed RPM	Working Torque		Overall Length		Air Inlet	Air Hose ID	Average Air Consumption		Net Weight	
		Imp (")	Metric (mm)		Ft/Lb	N.m.	Imp (")	Metric (mm)			cfm	l/min	lbs	Kg
AP17411-3/8	3/8"	1/2"	13	160	50	68	10.8	275	1/4"	3/8"	3	85.5	2.5	1.15
AP17411-1/2	1/2"	1/2"	13	160	50	68	10	254	1/4"	3/8"	2.7	77	2.4	1.1



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## Operating Instructions

### Description

- Die cast aluminium body.
- Reversible.
- Rubber scuff guards on nose and back.
- Built-in air regulator varies speed and power.
- Front exhaust.
- Designed for removing and installing nuts and bolts.
- Ideal for tyre changing, general assembly works and other workshop applications.

### Air Supply

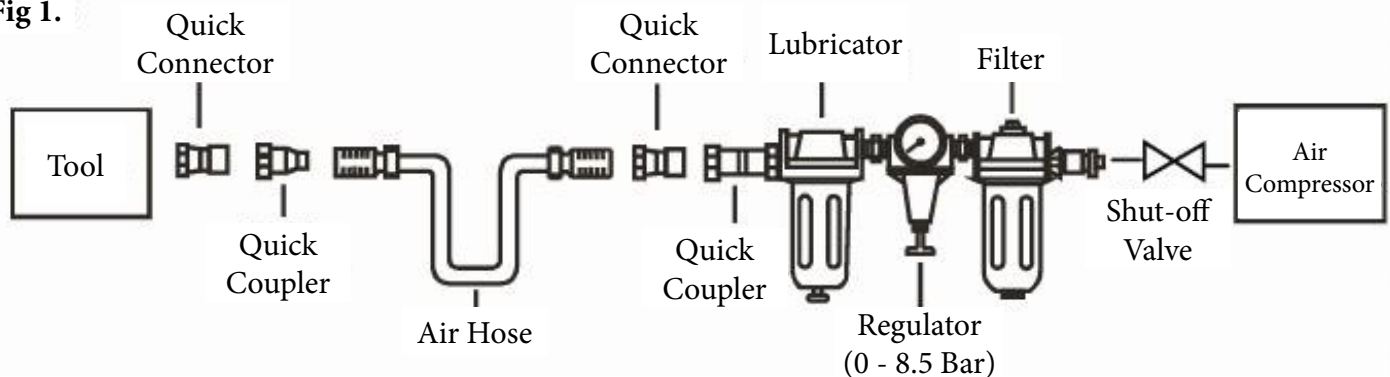
1. Ensure the air valve (or trigger) is in the "OFF" position before connecting to the air supply.
2. You will require an air pressure of 90psi, and an air flow in accordance to the specification.
3. **WARNING:** Ensure the air supply is clean and does not exceed 90psi while operating the air tool. Unclean air or too high an air pressure will shorten the product life due to excessive wear and may be dangerous, causing damage or personal injury.
4. Drain the air tank daily. Water in the air line will damage the air tool.
5. Clean air inlet filter weekly.
6. Line pressure should be increased to compensate for unusually long air hoses (over 8 metres). The hose diameter should be 3/8" I.D.
7. Keep hose away from heat, oil and sharp edges. Check hose for wear and make certain that all connections are secure.

### Lubrication

An in-line filter-regulator-lubricator with automatic drain is recommended (Fig 1.) as it increases the tool life and keeps the tool in sustained operation.

The in-line lubricator should be regularly checked and filled with air tool lubrication oil. Excessive amounts of oil should be avoided.

Fig 1.



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## Operating Instructions

In the event that it becomes necessary to store the tool for an extended period of time (overnight, weekend, etc.) lubricate the tool generously. The tool should be run for approximately 30 seconds to ensure that the oil has been evenly distributed throughout the tool. The tool should be stored in a clean and dry environment.

- It is most important that the tool be properly lubricated by keeping the air line lubricator filled and correctly adjusted. Insufficient lubrication will affect tool performance and parts will wear prematurely.
- Use the correct lubricant in the air line lubricator. The lubricator should be a low air flow or changing air flow type, and should remain filled to the correct level. Use only recommended lubricants, specially made for pneumatic applications. Substitutes may harm the rubber compounds in the tools O-rings and other rubber parts.

**IMPORTANT:** If a filter-regulator-lubricator is not installed on the air system, air operated tools should be lubricated at least once a day or after 2 hours work with 2 to 6 drops of oil, depending on the work environment, directly through the male fitting in the tool housing.

## Loading and Operation

**WARNING:** Ensure you read, understand and apply safety instructions before use.

1. Only use impact sockets which are specifically designed for use with impact wrench.
2. Connect the air tool to the air hose.
3. Place the socket over the subject nut and depress the trigger to operate the air tool.
4. To change direction push the button at the top of the handle. Direction of “R” for reverse and “F” for forward.
5. The flow of air may be regulated by adjusting the flow valve at the base of the handle.
6. Ensure the air supply is clean and does not exceed 90psi while operating the air tool. Unclean air or too high an air pressure will shorten the product life due to excessive wear and may be dangerous, causing damage or personal injury.

DO NOT use any additional force upon the wrench in order to remove a nut.

DO NOT allow air tool to free run for an extended period of time as this will shorten its life.

## Maintenance

**WARNING:** Disconnect air tool from air supply before changing accessories, servicing or performing maintenance. Replace or repair damaged parts. Use genuine parts only. Non-authorized parts may be dangerous.

1. Lubricate the air tool daily with a few drops of air tool oil, dripped into the air inlet.
2. DO NOT use worn or damaged sockets.
3. Loss of power or erratic action may be due to the following:
  - a) Excessive strain on the air line. Moisture or a restriction in the air pipe.
  - b) Grit or gum deposits in the air tool. If your model has an air strainer (located in the area of the air inlet), remove the strainer and clean it.
4. When not in use disconnect from air supply and store in a safe, dry, childproof location.

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## Operating Instructions

### Trouble Shooting

The following table details the common operating system with problem and solutions. Please read the table carefully and follow it.

**WARNING:** If any of the following symptoms appear during your operating, stop using the tool immediately, or serious personal injury could result. Only qualified persons or an authorised service centre can perform repairs or replacement of tool.

Disconnect tool from air supply before attempting repair or adjustment. When replacing O-rings or cylinder, lubricate with air tool oil before assembly.

Problems	Possible Causes	Remedies
If tool runs at normal speed, but loses speed under load	<ul style="list-style-type: none"> <li>■ Motor parts worn</li> <li>■ Cam clutch worn or sticking due to lack of lubricant</li> </ul>	<ul style="list-style-type: none"> <li>■ Lubricate clutch housing.</li> <li>■ Check for excess clutch oil. Clutch cases need only be half full. Overfilling can cause drag on high speed clutch parts, i.e. a typical oiled/lubricated air tool requires 1/2 ounce of oil <b>GREASE LUBRICATED:</b> Heat usually indicates insufficient grease in chamber. Severe operating conditions may require more frequent lubrication</li> </ul>
If tool runs slowly and air flows lightly from exhaust	<ul style="list-style-type: none"> <li>■ Motor parts jammed with dirt particles</li> <li>■ Power regulator in closed position</li> <li>■ Air flow blocked by dirt</li> </ul>	<ul style="list-style-type: none"> <li>■ Check air inlet filter for blockage</li> <li>■ Pour air tool lubricating oil into air inlet as per instructions</li> <li>■ Operate tool in short bursts quickly reversing rotation back and forth where applicable</li> <li>■ Repeat above if needed</li> </ul>
If tool will not run and air flows freely from exhaust	<ul style="list-style-type: none"> <li>■ One or more motor vanes stuck due to material build up</li> </ul>	<ul style="list-style-type: none"> <li>■ Pour lubrication oil into the tool air inlet</li> <li>■ Operate tool in short bursts of forward and/or reverse rotation where applicable</li> <li>■ Tap motor housing gently with plastic mallet</li> <li>■ Disconnect supply. Free motor by rotating drive shank manually where applicable</li> </ul>
If tool will not shut off	<ul style="list-style-type: none"> <li>■ O-rings throttle valve dislodged from seat inlet valve</li> </ul>	<ul style="list-style-type: none"> <li>■ Replace O-ring</li> </ul>

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## Safety Rules and Hazards

### Residual Risks

Even when the tool is used as prescribed it is not possible to eliminate all residual risk factors. The following hazards may arise in connection with the tool's construction and design:

1. Damage to lungs if an effective dust mask is not worn.
2. Damage to hearing if effective hearing protection is not worn.
3. Health defects resulting from vibration emission if the power tool is being used over longer period of time or not adequately managed and properly maintained.
4. Damage to eyes if sufficient eye protection is not worn.



### Important Safety Rules

1. Follow all workshop safety rules, regulations, and conditions when using air tools.
2. Do not wear watches, rings, bracelets or loose clothing when using air tools.
3. **WARNING:** Disconnect from air supply before changing accessories or servicing.
4. Maintain the air tool in good condition and replace any damaged or worn parts. Use genuine parts only. Non-authorized parts may be dangerous.
5. **WARNING:** Check correct air pressure is maintained and not exceeded. 90psi recommended.
6. Keep air hose away from heat, oil and sharp edges. Check air hose for wear before each use and ensure that all connections are secure.
7. Only use accessories (sockets, drills, chisels etc) which are specifically designed for use with an air tool.
8. Wear approved safety eye/face shield, ear defenders and hand protection.
9. **WARNING:** Due to the possible presence of asbestos dust from brake linings, when working around vehicle brake systems, ensure suitable respiratory protection is worn.
10. Maintain correct balance and footing. Ensure the floor is not slippery and wear non-slip shoes.
11. Keep children and non-essential persons away from the working area.
12. DO NOT use the air tool for a task it is not designed to perform.
13. DO NOT use air tool if damaged or thought to be faulty.
14. DO NOT use the air tool unless you have been instructed in its use by a qualified person.
15. DO NOT carry the air tool by the air hose.
16. DO NOT direct air from the air hose at yourself or others.
17. When not in use disconnect from air supply and store in a safe, dry, childproof location.

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## Safety Rules and Hazards

### General Safety Rules

1. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the power tool. Failure to do so can result in serious bodily injury.
2. Only qualified and trained operators should install, adjust or use the power tool.
3. Do not modify the power tool. Modifications can reduce the effectiveness of safety measures and increase the risks to the operator.
4. Do not discard the safety instructions; give them to the operator.
5. Do not use the power tool if it has been damaged.
6. Tools shall be inspected periodically to verify that the ratings and markings required by this part of ISO 11148 are legibly marked on the tool. The employer/user shall contact the manufacturer to obtain replacement marking labels when necessary.

### Projectile Hazards

1. Failure of the workpiece, of accessories or even of the inserted tool itself can generate high-velocity projectiles.
2. Always wear impact-resistant eye protection during the operation of the power tool. The grade of protection required should be assessed for each use.
3. Ensure that the workpiece is securely fixed.

### Entanglement Hazards

1. Entanglement hazards can result in choking, scalping, and/or lacerations if loose clothing, personal jewellery, neckwear, hair or gloves are not kept away from the tool and accessories.
2. Gloves can become entangled with the rotating drive, causing severed or broken fingers.
3. Rotating drive sockets and drive extensions can easily entangle rubber-coated or metal-reinforced gloves.
4. Do not wear loose-fitting gloves or gloves with cut or frayed fingers.
5. Never hold the drive, socket or drive extension.
6. Keep hands away from rotating drives.

### Repetitive Motion Hazards

1. When using a power tool for, the operator can experience discomfort in the hands, arms, shoulders, neck, or other parts of the body.
2. While using a power tool, the operator should adopt a comfortable posture whilst maintaining secure footing and avoiding awkward or off-balanced postures. The operator should change posture during extended tasks, which can help avoid discomfort and fatigue.
3. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warning signs should not be ignored. The operator should tell the employer and consult a qualified health professional.



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## Safety Rules and Hazards

### Operating Hazards

1. The use of the tool can expose the operators hands to hazards including crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly; be ready to counteract normal or sudden movements and have both hands available.
4. Maintain a balanced body position and secure footing.
5. Release the start-and-stop device in the case of an interruption of the energy supply.
6. Use only lubricants recommended by the manufacturer.
7. Do not use in confined spaces and beware of crushing hands between tool and workpiece, especially when unscrewing.

### Accessory Hazards

1. Disconnect the power tool from the energy supply before fitting or changing the inserted tool or accessory.
2. Avoid direct contact with the inserted tool during and after use, as this increases the risk of cuts, burns or vibration injuries.
3. Use only sizes and types of accessories and consumables that are recommended by the manufacturer.
4. Use only air tool rated sockets in good condition, as poor condition or hand sockets and accessories used with air tools can shatter and become a projectile.

### Workplace Hazards

1. Slips, trips and falls are major causes of workplace injury. Be aware of slippery surfaces caused by the use of the tool and also of trip hazards caused by the air line or hydraulic hose.
2. Proceed with care in unfamiliar surroundings. Hidden hazards, such as electricity or other utility lines can exist.
3. The power tool is not intended for use in potentially explosive atmospheres and is not insulated against coming into contact with electric power.
4. Make sure there are no electrical cables, gas pipes, etc. that can cause a hazard if damaged by use of the tool.

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## Safety Rules and Hazards

### Dust and Fume Hazards

1. Dust and fumes generated when using power tools can cause ill health (for example, cancer, birth defects, asthma or dermatitis); risk assessment and implementation of appropriate controls for these hazards is essential.
2. Risk assessment should include dust created by the use of the tool and the potential for distributing existing dust.
3. Direct the exhaust to minimise disturbance of dust in a dust filled environment.
4. Where dust or fumes are created, the priority shall be to control them at the point of emission.
5. All integral features or accessories for the collection, extraction or suppression of airborne dust or fumes should be correctly used and maintained in accordance with the manufacturer's instructions.
6. Use respiratory protection in accordance with employer's instructions and as required by occupational health and safety regulations.

### Noise Hazards

1. Unprotected exposure to high noise levels can cause permanent, disabling, hearing loss and other problems, such as tinnitus (ringing, buzzing, whistling or humming in the ears).
2. Risk assessment and implementation of appropriate controls for these hazards is essential.
3. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpieces from "ringing".
4. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
5. Operate and maintain the power tool as recommended in the instruction handbook, to prevent an unnecessary increase in noise levels.
6. If the power tool has a silencer, always ensure it is in place and in good working order when the power tool is operating.



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## Safety Rules and Hazards

### Vibration Hazards

1. Exposure to vibration can cause disabling damage to the nerves and blood supply of the hands and arms.
2. Keep the hands away from the nutrunner sockets.
3. Wear warm clothing when working in cold conditions and keep your hands warm and dry.
4. If you experience numbness, tingling, pain or whitening of the skin in your fingers or hands, stop using the power tool, tell your employer and consult a physician.
5. Operate and maintain the power tool as recommended in the instruction handbook, to prevent an unnecessary increase in vibration levels.
6. Do not use worn or ill-fitting sockets or extensions, as this is likely to cause a substantial increase in vibration.
7. Select, maintain and replace the consumable/inserted tool as recommended in the instruction manual, to prevent an unnecessary increase in vibration levels.
8. Sleeve fittings should be used where practicable.
9. Support the weight of the tool in a stand, tensioner or balancer, if possible.
10. Hold the tool with a light but safe grip, taking account of the required hand reaction forces, because the risk from vibration is generally greater when the grip force is higher.