



# **Workplace Health and Safety Queensland**

## **Rural Mobile Plant Safety Tool**

**February 2004**

Mobile rural machinery is vital to the rural industry. However it can pose many health and safety risks for workers, managers and visitors to farms.

More than 150 people have been killed or sustained serious injury on tractors alone in Queensland since 1990. This has often resulted because a tractor has rolled over or flipped back. In July 2003, a new Regulation was introduced requiring rollover protective structures (ROPS) to be fitted on tractors manufactured from January 1, 1981; is a non-earthmoving, wheeled tractor; and weighs between 560kg and 15,000kg.

A further 11 people have been killed on all terrain vehicles in the same time, 10 others killed while riding agricultural motorcycles and two people killed using power driven equipment like post-hole diggers. These statistics indicate that there are many life-threatening risks associated with using mobile rural plant and the cost in terms of human life is too high.

On October 8 2003 the Minister for Industrial Relations stressed the need for the industry to adhere to strict new regulations requiring ROPS to be fitted to new tractors and to tractors that are leased, hired or borrowed.

The Minister said that rural workplaces can be made safer with the correct use of tractors, post-hole diggers, elevated work platforms, all terrain vehicles and agricultural motorcycles.

The following points outline some of the areas obligation holders in the rural sector should pay attention to when ensuring the safety of rural workplaces.

## **TRACTORS**

### **Operators platform clean/ uncluttered**

- Remove items of trash, mud, oil, grease and foreign objects

### **Lights**

- Working(if driving at night)
- Wiring not exposed and casing not broken

### **Tyres/ wheels/ rims**

- Wear and tear, exposed tubes, tyre pressure

### **Seats**

- No damage, seat can be adjusted and seat springs are good

### **Hydraulic hoses and connections**

- No leaks or damage to hoses or connections
- Internal wire core isn't showing damage

### **Stepping plates or pegs**

- Structurally sound
- Easy access and egress
- No damage and rust

### **Grips on pedals**

- Not slippery or worn

### **PTO master shield guard in place**

- Top and two sides are covered

### **Other drive shaft/ belts/pulley's and hot parts**

- Adequate guarding
- Refer to Rural Plant Advisory Standard s8 (c)

### **ROPS on new tractors comply with Australian Standard 1636 (purchased after 01/07/2003)**

- Refer to Australian Standard 1636 and Workplace Health and Safety (WHS) Regs section 154
- Check if exemptions in WHS Regs s154 apply

### **Tractors hired, leased or borrowed have ROPS fitted complying with Australian Standard 1636 (effective from 1/07/2003)**

- Refer to Australian Standard 1636 and WHS Regs section 153
- Check if exemptions in WHS Regs s153 apply

## **ROPS**

- Comply with Australian Standard 1636
- No adjustments/modifications
- Not welded, cut or drilled
- If repaired, carry a label fixed by the repairer with name/ address and the type of repairs

## **Structural integrity of mounting bolts/ plates and frame of ROPS**

- No rust or damage to u bolt (look in front and rear of back axle)
- Corrosion to bolts on ROPS base plate

## **Seatbelts in sound condition (where fitted)**

- Not torn/ worn
- Can be clipped together
- Belt strength sound

## **Existing seatbelt mountings**

- Belt rotates where mounted
- Not worn/ damaged

## **Modifications or attachments**

- Stable
- Guarded

## **Brakes can be latched together for travel in high gear (roads)**

- Check operation of locking device

## **Foot brakes working effectively and evenly**

- Drive (8 – 10 km/h) and observe braking from rear to check if tractor pulls to one side or one wheel continues to turn

## **Handbrake operational**

- Operate to check

## **Steering**

- No excessive play
- Physical damage to the outside of linkage
- Steering rod not bent

## **Exhaust**

- Working
- No rust and abnormal noise
- No increase in noise & fume levels due to faults

## **ATV'S and/or FARM BIKES**

### **Lights**

- Working (if driving at night)
- Casing not broken and wires not exposed

### **Tyres/ rims**

- No wear and tear
- Even pressure
- No damage to tyre wall

### **Footpegs and footplates**

- Structural soundness
- Check for fitting
- No rust or damage

### **Attachments**

- Check documented weight limits
- Adequately secured
- Follow manufacturers/suppliers operating instructions

### **Trailed implements**

- Size and weight of the trailer within manufacturers' recommendations
- Drawbar doesn't restrict turning or risk tyre damage
- Drawbar/ tongue weight considered

### **Suspension**

- Evidence of wear from oil around piston shaft seals of shock absorber
- Bike on a lean
- Bottom out bumper for excessive wear (if fitted)
- Swinging arm supporting rear axle in sound condition

### **Modifications that affect safety**

- Stable
- Guarded

### **Hand operated front and rear brakes operational**

- Cabling in good order

### **ATV rear wheel footbrake operational**

- Operate to check

### **Parkbrake operational**

- Cable not damaged
- Parkbrake locks into place

### **Steering**

- No excessive play
- Listen for grinding noise, may indicate worn ball joints

## **POWER TAKE OFF (PTO) DRIVEN IMPLEMENTS**

### **Hydraulic hoses and connections**

- No leaks or damage to hoses or connections
- Internal wire core isn't showing damage

### **Structure**

- Check for holes or weakened structure of guards

### **Guarding on implement (eg chains, belt drives)**

- No damage
- No holes in guarding
- No nip points unguarded

### **PTO shaft guard in place and in sound condition**

- No damage
- Guards slide in and out of each other
- No nip points unguarded
- No holes in shaft

### **Power Implement Connector (PIC) guard in place and in sound condition**

- No damaged
- No holes in guarding affecting its effectiveness
- No nip points unguarded

### **Modifications to PTO driven implement**

- Guards removed or missing in part

## **NOISE ON TRACTORS, ATVs & FARM BIKES**

Noise hazards can stem from the following:

1. Idling revolutions
2. Working revolutions (revving machinery to simulate working conditions)

Refer to the Advisory Standard for Noise

## **MAINTENANCE**

### **ALL MOBILE PLANT**

#### **Schedule**

- Refer to operators manual or safe work procedure
- Brakes, tyres, hydraulics etc.
- Fault reporting system
- Isolation procedures
- Next service scheduled

## **Records**

### Servicing and repairs

- To manufacturers specifications
- Date of service or repairs
- Competency of person or service
- Link to fault reporting system

### Chemical Filters

- Maintained to manufacturers specification
- Date of maintenance
- Checked regularly

## **INFORMATION, TRAINING, PROCEDURES AND RISK ASSESSMENTS ALL MOBILE PLANT**

### **TRACTORS**

- Starting the tractor from the operators seat
- Guarding and replacement of guards
- Training in safe operation
- No passengers unless for driver instruction
- Daily pre-start checks completed
- Wearing seatbelts where fitted with ROPS
- Hitching implements as per manual
- Check the use and maintenance of PPE

### **ATV'S and/or FARM BIKES**

- Wearing and maintenance of helmet and other PPE
- Training on safe operation
- No passengers
- Hitching implements (towbar)
- Carry weight limits on the ATV known and comply
- Policy on removal of tanks when not in use

### **PTO DRIVEN IMPLEMENTS**

- Guarding (respecting damage and replacement)
- Training
- Hitching PTO driven implements and trailed equipment as per manual
- Excludes people around working implements

## **OTHER ISSUES TO CONSIDER**

- Is there a documented induction program?
- Is there a recode of training for new operators?
- Is there a documented risk assessment for mobile plant?