

ABN 18 115 056 221

4 Drake Drive, Paget QLD 4740

PO Box 5746 Mackay Mail Centre QLD 4741

P 07 4968 2910 F 07 4968 2950

E admin@dgheengineering.com.au

www.dgheengineering.com.au

# CERTIFIED WEIGHBRIDGE CERTIFICATE

CERTIFIED NO. 101

COMPANY Carlisle Tractors

DATE 29/05/2017

DESCRIPTION Check weight. PO # 88953

VEHICLE REGISTRATION \_\_\_\_\_

GROSS WEIGHT 14,020 tonnes

TARE WEIGHT 7.14 tonnes

NETT WEIGHT 6.860 tonnes Pay load

Handwritten notes: 25.5, (9) - 50, (8)

DGH SIGNATURE *Reno Keefe*





Certificate Number: 951912

Vehicle and Certification particulars (to be completed in full)

Make and model HINO 1426		Engine number JOTE TN12691	VIN/Chassis Number JHD FE7J JPMX X X 10 9 81
Registration Number (if applicable)		Odometer reading 90	ICV Job reference number (if applicable) 0827 050517
Inspection date 5 15 17	Time 8.30	Inspection location (address) 41 COLEBARD ST WEST ACACIA RIDGE	
Certification date 5 15 17	Time 8.30	Certification address 41 COLEBARD ST WEST ACACIA RIDGE	
Modification plate serial number 743113			

Modification code number	Description of Modification (in detail)	ADRs checked for continued compliance
J1	FIT 7,500MM LONG TILT AND SLIDE NUMBER 0827 050517	ADR 43 ADR 13
T1	FITTED WITH 12,020 LB A.P.E. WINCH SERIAL # W11046	
G6	FIT AIR OPERATED PTO	
H4	CUT OFF REAR AFTERFRAME AND PUT PIVOT BOSSAS THROUGH CHASSIS	

Approved Person's certification

I certify that this modification(s) complies with the Approved Code of Practice for Modifications under the *Transport Operations (Road Use Management - Vehicle Standards and Safety) Regulation 2010* or *Heavy Vehicle National Law Act (Queensland)* including its associated conditions for that class of vehicle.

I certify that I have inspected the above-mentioned vehicle and that the modification(s) has not adversely affected the vehicle's compliance with the applicable ADRs. I also confirm that the modification(s) has been carried out according to good engineering practice, and has not reduced the safety of the original vehicle. I hold the required supporting documentation and evidence for this certification, including any applicable drawings, specifications, analysis reports, calculations, test data or photographs.

I certify that, where the certification of the modification requires it, I have attached a modification plate to the vehicle in accordance with, for light vehicles, the *Transport Operations (Road Use Management - Vehicle Standards and Safety) Regulation* and for heavy vehicles, the *Heavy Vehicle National Law Act (Queensland)*.

I certify the information and statements in this certificate are true and correct.

Approved Person's particulars

Approved Person's name (print)  
CAMERON MCFADYEN

Accreditation (MA) Number: 2018  
Approved Person's signature: *C. M. McFadyen*  
Date: 5 15 17

Employer's name  
SOUTH EAST QUEENSLAND TILT TRAY

Employer's address  
41 COLEBARD ST WEST  
ACACIA RIDGE  
Postcode 4110

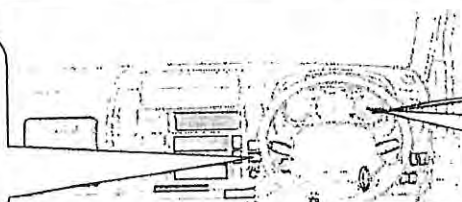
# DPR QUICK REFERENCE

Please be sure to read these instructions before driving your Hino vehicle.

## OPERATION OF THE DIESEL PARTICULATE ACTIVE REDUCTION SYSTEM

[For detail refer to the Driver's / Owner's Manual]

DPR manual regeneration switch



Malfunction Indicator light



DPR system warning light

DPR : Diesel Particulate active Reduction



### DPR warning

When the warning light is on, refer to the following <Manual regeneration procedure>

- 1 Stop the vehicle in a safe place with the engine running.  
 ※ Confirm that there are no flammable materials near the exhaust opening.

---

- 2 Shift the transmission into "N" and apply the parking brake.

---

- 3 Push the DPR manual regeneration switch.  
 The DPR system warning light and indicator light on the switch will stay on.  
 The engine idle speed will increase.

---

- 4 In 15 to 20 minutes, DPR manual regeneration will be completed and the lights will go off.  
 The engine idle speed will be reduced.  
 ※ If the engine and exhaust system are hot, such as after driving, manual regeneration will take less time.



### Check engine warning light (Malfunction Indicator Light) If the Check engine warning light comes on.

It is normal for the check engine light to turn on for a few seconds and then turn off just after starting the engine.  
 If the check engine light remains on or turns on while driving, this is a sign that something abnormal has occurred.  
 < ENGINES (N04C-UH) >  
 The light flashes when the engine emission control system is not functioning correctly.  
 If the engine is run for more than 36 hours with the light flashing, the system will automatically reduce engine performance until the malfunction is corrected.



- Never park the vehicle near any flammable material, including high grass or leaves during manual regeneration as this could cause a fire resulting in personal injury and / or property damage.
- Never touch DPR, exhaust pipe or tail pipe during regeneration or after the vehicle has been in operation. Severe burns and other personal injuries could occur.



## ⚠ NOTICE ⚠

- Manual cleaning becomes possible after the engine has been started and the DPR warning light has flashed for 10 seconds.
- If you start driving before regeneration has been completed, the DPR warning light will flash again.
- If you continue to drive with a flashing DPR warning light without performing the manual regeneration, the check engine light will come on.

### The idling speed varies.

- When the vehicle is stopped while driving and the engine's idling speed changes (such as during automatic regeneration).
- When idling continues for a long time (approx. 30 minutes or more).  
(The idle speed increases from time to time to prevent the emission of white smoke.)

### White smoke may sometimes be emitted.

- This is due to the emission of water vapor.
- Smoke emission will stop naturally if the exhaust gas temperature increases sufficiently.
- Continuous emission of white smoke may occur if a fuel other than Ultralow sulfur diesel fuel (sulfur content: 50 ppm or less) is used.

### The exhaust gas odour will not be same as that of previous diesel vehicles.

- The odour is different because the exhaust gas is passed through a catalytic converter and cleaned.

= Vehicles equipped with an Idle-stop system =

The Idle-stop system does not operate during Automatic regeneration.

## PRECAUTION

### Use the specified fuel only.

Use only low sulfur diesel fuel (sulfur content: 50 ppm or lower).

When fuel other than the specified fuel is used, this may damage the engine, the exhaust gas purifier, etc.

### Use the specified engine oil only.

It is recommended to use only the specified (recommended) brand of engine oil to maintain the function of the exhaust gas purifier for a long time.

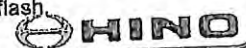
### Do not modify the tailpipe.

Do not modify the tailpipe in any way.

Doing so could diminish the effectiveness of the exhaust gas purifier and cause damage.

### Vehicles equipped with a DPR will automatically regenerate the soot collected in the exhaust gas purifier.

- In order to perform a regeneration of the DPR, the idling speed increases and the cleaning operates when the vehicle is stopped in cleaning mode when the indicator light comes on.
- When the vehicle is left idling for a long time, the idling speed may be increased to prevent white smoke, and the regeneration may occur.
- Depending on the operating conditions, the regeneration of the soot collected in the DPR may be interrupted and not be completed.  
In such a case, the DPR indicator light in the switch and on the instrument panel will flash.  
Press the DPR switch and manual regeneration will take place.



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**South East Queensland Tilt Tray PTY LTD**  
**HEAVY DUTY TILT TRAY SPECIALISTS**

ABN: 49 105 534 496

Phone: 07 3216 7511  
Fax: 07 3274 1507  
E-mail: [cam@seqtt.com.au](mailto:cam@seqtt.com.au)

41 Colebard St West  
Acacia Ridge QLD 4110

## TILT TRAY OPERATION GUIDE – TELERADIO REMOTE

### **PRE-START CHECKS and PROCEDURE TO LOAD**

- Position truck on level stable ground.
- Apply park brake.
- Engage PTO (switch on dashboard).
- Use manual idle up in cabin to set engine revs at approximately 1000RPM.
- Dump airbags if fitted.
- Walk around to hydraulic controls on the tilt tray, positioned on left hand side behind the rear wheels.
- If there is a problem with the radio remote, turn off the truck and it will stop the tray from operating. You can also override the radio remote at the control levers. The lever will require a bit of extra effort to push to the neutral position and it will be necessary for another person to turn off the truck.

These events are unlikely; however the operator should familiarize themselves with what to do in the event of this happening.

- The radio remote should be kept in a place where it is not possible for it to be accidentally activated while the PTO is engaged.

There has been at least one case of an operator losing a finger while bending over a winch with the radio remote in his pocket. The winch was activated when he bent over and the cable caught his finger.

- To slide the tray back, 1<sup>ST</sup> LEVER UP or SLIDE OUT on radio remote. Be aware that the tray is moving and ensure that it will not hit anything.
- By using the levers behind the left hand rear wheel you will have more control than using the radio remote, as the radio remote tends to be ON or OFF which results in a more 'jerky' operation.

You can also start to lift the tray up: 2<sup>ND</sup> LEVER UP or TILT UP on radio remote. The tray will not lift until it has slid back approximately 400mm.

There is a manual lockout on the TILT LEVER to prevent the tray from being lifted when it is in its lock downs in the forward most slide position.

- When lifting tray, look up, and check that the tray or the load cannot come in to contact with anything.
- If you are picking up a heavy load, tilt the tray up until the run under bars the rear of the tray touches the ground and then slide the tray until it touches the ground.
- If you are picking up a light load, slide the tray all the way out and tilt it up until the tray touches the ground.
- Disengage the dog clutch on winch and pull winch cable out.  
**(PPE – GLOVES)**

- To re-engage dog clutch, press the WINCH OUT button on the radio remote and hold pressure on the dog clutch lever until the 'dog' lines up and the lever will move to the engaged position.

**WARNING:** When the dog clutch is engaged, the winch drum will turn. As soon as the dog clutch lever is re-engaged, release the WINCH OUT button on the radio remote and ensure that you are not wearing any loose clothing etc that could get tangled in the winch drum, cable or cable tensioner.

- Inspect the winch cable and ensure that it is not flattened, kinked or has broken wires etc.
- The winch requires a minimum of 3 turns of cable on the drum and the cable should be spooled on to the drum in a neat, tight fashion.
- Ascertain the weight of the load to ensure that you are not overloading the tilt tray.
- The load should be connected to the winch using slings of the correct type and capacity to suit that load.

**Winching is a dangerous operation and should be treated as such. Broken winch cables 'whip' with enormous force and there is no way of knowing where it will go if it breaks.**

- Ensure there that personnel are well out of the way of the cable and the load. If the cable breaks or the winch fails the load will roll back.
- If winching on a vehicle or similar that can be steered and the brakes are operational, it may be safer to sit in the vehicle and operate the winch with the remote control.
- Do not try to drive vehicle on to tray with winch cable attached. With rollers in particular, trying to drive vehicle on with winch cable attached, the cable will be run over and when roller starts to drive up the tray, the drums will 'spin' on the cable and roller will slide back off tilt tray until it reaches the end of winch cable. This will result in a severe shock load to the winch resulting in major damage and the possibility the load will then not be controlled by winch.

- Please ensure that no personnel are behind the load.  
**There have been recorded fatalities from uncontrolled loads rolling back off tilt trays after winch or winch cable failures.**
- Once load is positioned on the tray it should be restrained in the proper manner before attempting to slide tray back on to the truck.
- Do not walk behind the load until it is properly restrained to the tilt tray.
- The load should not be left on the winch after the load has been restrained.
- Winch out until a small amount of slack is obvious in the winch.
- Once the load is properly restrained the tray can then be slid back on the truck.
- Winch out until there is a little bit of slack in the cable.
- If it is a heavy load, slide the tray (1<sup>ST</sup> LEVER DOWN or SLIDE IN button on radio remote) until the weight is over the truck and then carefully lower the tray (2<sup>ND</sup> LEVER DOWN or TILT DOWN button on radio remote) until it is on the truck.
- Slide the tray forward (1<sup>ST</sup> LEVER DOWN or SLIDE IN on radio remote) until it is fully forward and in its lock downs.
- Reset manual idle up to IDLE and disengage PTO before driving off.
- If it's a relatively light load it may be possible to tilt the tray back down before sliding to prevent tray from scraping on the ground.
- Use the 2<sup>ND</sup> LEVER DOWN or the TILT DOWN button on the radio remote to carefully tilt the tray down.
- Watch the front tyres of the truck. If they look like they are about to come off the ground, tilt the tray back up a little (2<sup>ND</sup> LEVER UP or TILT UP button on radio remote).  
Please note that if the front wheels of the truck come off the ground it puts a lot of stress on the truck chassis.
- Slide the tray onto the truck (1<sup>ST</sup> LEVER DOWN or SLIDE IN button on radio remote) until the weight is over the truck and the tilt tray down (2<sup>ND</sup> LEVER DOWN or TILT DOWN button on radio remote), while also watching the front wheels of the truck to make sure that they are not coming off the ground.
- When the tray is completely down on the truck, slide the tray forward (1<sup>ST</sup> LEVER DOWN or SLIDE IN on radio remote) until it is completely forward and in its lock downs.
- Reset manual idle up to IDLE and disengage PTO before driving off.

## PROCEDURE TO UNLOAD

- Position truck on level stable ground.
  - Apply park brake.
  - Engage PTO and use manual idle up to set engine revs at approximately 1000RPM (dump air bag if fitted).
  - Walk around to the hydraulic controls on the left hand side of the truck behind the rear wheels.
  - Slide the tray back (1<sup>ST</sup> LEVER UP or SLIDE OUT on radio remote). Watch the front wheels on the truck as well as the tray. If the front wheels on the truck; look like they are going to come off the ground, stop sliding the tray back.
  - After sliding the tray back about 1.5m (if the front of the truck looks stable), lift the tray up about 0.5m or so (2<sup>ND</sup> LEVER UP or TILT UP button on radio remote).
  - Continue to slide back and lift up while watching the tray (beware of overhead obstacles) and the front wheels of the truck.
  - If it is a heavy load slide the tray back about 1.5m (1<sup>ST</sup> LEVER UP or SLIDE OUT on radio remote) while also watching the front wheels of the truck.
  - Tilt the tray up (2<sup>ND</sup> LEVER UP or TILT UP button on radio remote) until the run under bar touches the ground.
  - Continue to slide the tray back (1<sup>ST</sup> LEVER UP or SLIDE OUT on radio remote) until it touches the ground.
  - When the tray is on the ground, tilt the tray up (2<sup>ND</sup> LEVER UP or TILT UP button on radio remote) a little bit more which will compensate for the springs on the truck rising when the weight comes off the truck (not necessary on air bag trucks with the air bags dumped).
  - Take up the slack on the winch cable (WINCH IN).
  - Remove restraints from load. Do not walk behind or allow others to do so once the load is unrestrained.
  - In vehicles or machines that can be steered and that have operational brakes, you may sit in the vehicle or machine whilst winching out.
  - Once the load is off the tilt tray, secure it before removing the winch cable.
  - Depending on individual state laws, you may be able to leave the winch cable partially extended.
- Place the hooks of the sling in the rear keyholes or container pin hole at the rear of the tray.



Winch in until the cable and sling are just tight enough not to fall out or swing around. Otherwise you will have to disconnect the sling from the winch cable and winch in until there is about 400mm of cable protruding from the winch.

- Be careful not to winch the cable right into the winch, as this will damage the cable tensioner.
- It is a good idea to keep a bit of tension on the winch cable while winching in, either by holding the sling and pulling back while winching in or putting your foot on the cable while winching in. Be very careful to stay well away from the winch drum or anywhere else you (or your clothing) can get caught up.
- By keeping a bit of tension on the winch cable, the cable will 'spool' on nicely.
- Slide the tray back on to the truck (1<sup>ST</sup> LEVER DOWN or SLIDE IN button on radio remote) and tilt down (2<sup>ND</sup> LEVER DOWN or SLIDE IN button on radio remote).
- Make sure the tray is completely down before sliding all the way back on.
- The tray must be completely down for the last 400mm of its travel so that it slides in to its lockdowns.
- Reset manual idle up to IDLE and disengage the PTO before driving off.

**NOTE FOR CONTAINERS:**

- When loading, do not fit container pins until tray has been slid back on the truck.
- Remove container pins before sliding tray off.

**NOTE FOR RADIO REMOTE:**

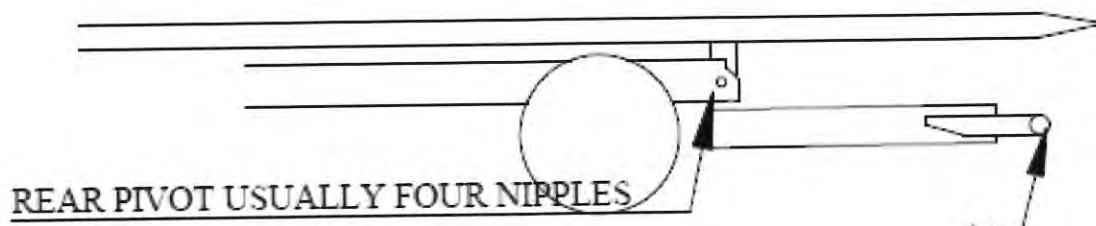
- The Transmitter automatically turns itself off when not in use to conserve the batteries.
- The Transmitter utilizes 3 X AAA batteries, and a small Phillips screwdriver is required to access the battery compartment on the back of the unit.

2613 Remote Code

**The applications and operating conditions in which tilt trays generally operate vary widely. In taking this into consideration, we recommend that this document is meant to be used as a guide only in the formulation of your own operating manual. It has been written to help operators and 'South East Queensland Tilt Tray' is more than happy to answer any enquiries that you might have.**

Fuses for PTO                      RED WIRE 5 AMP  
   ROTATING LIGHT YELLOW WIRE 20 AMP  
   WORK LIGHT        YELLOW WIRE 20 AMP  
ARE ALL LOCATED ON TOP OF THE BATTERIES

Also refer to winch manual for greasing points and frequency (usually 10hrs of op)  
2 nipples in handle  
1 nipple under rope in drum  
1 nipple in end of shaft



Flip over cradle  
usually two nipples grease every 2 weeks

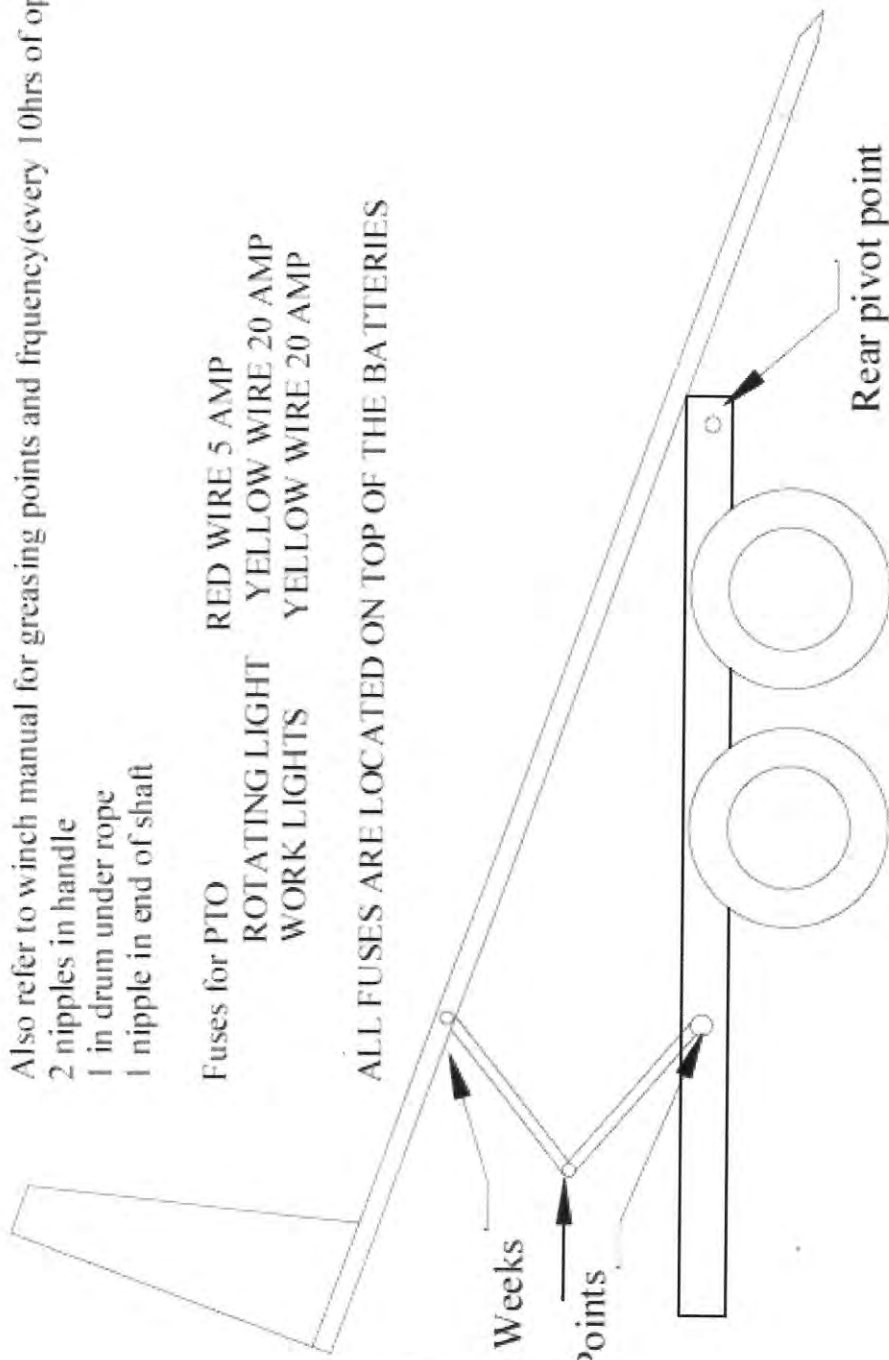
pivot  
grease daily when in use

Also refer to winch manual for greasing points and frequency (every 10hrs of operation)

- 2 nipples in handle
- 1 in drum under rope
- 1 nipple in end of shaft

Fuses for PTO  
RED WIRE 5 AMP  
ROTATING LIGHT  
YELLOW WIRE 20 AMP  
WORK LIGHTS  
YELLOW WIRE 20 AMP

ALL FUSES ARE LOCATED ON TOP OF THE BATTERIES



Scissor 6 Nipples

Grease Every Two Weeks

Grease Points

Rear pivot point  
Usually 2 Nipples  
Every Two weeks

# WINCH INDUSTRIES PTY. LTD.

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# IMPORTANT CONSIDERATIONS

Please keep in mind the persons who have to service and maintain your winch. They may, at one time or another, have to remove the winch to make inspections and/or repairs. Therefore, please ensure your winch is installed in such a way that it is secure yet can be easily removed if need be.

## **Guide rollers or guide bars**

These simple to make and fit additions can make winching much more profitable by keeping the rope inside the drum cheek plates when winching from one side. Spring rope tensioners can greatly improve the life of your winch rope by improving the lay of your winch rope on the drum.

## **Lubrication**

The oil in your winch is like the oil in your car or truck. Basically, it's the life blood and is the least expensive part of the winch. If changed regularly, your winch will give good service for many years.

This being the case, easy access to the oil level, filler and drain plugs is imperative, also access to the various grease nipples should be assured.

## **Dog Clutch Locks**

These additions should be seriously considered. They can take many forms but all will stop your dog clutch becoming disengaged, saving dollars and heartache.

Did you know that worm drive winches operate slower than planetary winches, but generally offer inherent self braking capabilities? They do not require any added braking system where planetary winches depend solely on an added braking system to hold the load. If a brake failure occurs, a planetary style winch will release their load unless, of course, other measures have been taken where worm drive winches will not, under most cases, release the load.

## **Warranty Excerpt**

Winch Industries Pty. Ltd. warrants each new winch to be free from defects in workmanship for a period of two (2) year from date of purchase. The obligation under this warranty is limited to the replacement or repair at our factory of such part or parts as shall appear to us upon inspection to be defective in materials and workmanship.

# INTRODUCTION

Thank you for purchasing a new APE Winch. We are proud of our products and are certain that they will perform your winch tasks adequately. However, we do ask that you take a few minutes to read and thoroughly understand this booklet. Also, if you have new operators assigned to the winch, make sure that they read and understand it. Because of the large number of models we manufacture, we are unable to show parts lists for every model in the booklet. If you want or need part lists please write or call us at the address on the back of the booklet.

## **WARNING!!**

### **FAILURE TO HEED THE FOLLOWING WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH**

APE winches are not to be used to lift, hoist or move people. If your task involves lifting or moving people, you **MUST** use the proper equipment, not this winch.

Cable anchors on APE winches are not designed to hold the rated load of the winch. You must keep at least five (5) wraps of cable on the drum to insure that the cable doesn't come loose.

Stay clear of suspended loads and of cable under tension. A broken cable or a dropped load can cause serious injury or death.

Make sure that all equipment including the winch and cable is maintained properly. Pay especially close attention to the clutch, making sure that it fully engages when shifted. Do not attempt to disengage the clutch when a load is on the winch.

Avoid shock loads. This type of load imposes a strain on the winch many times the actual weight of the load and can cause failure of the cable or of the winch.

## **OIL REQUIREMENTS**

We recommend Castrol "Alpha 460" high pressure oil.  
For light duty, the use of Castrol "EP80-140" is acceptable.

# WINCH OPERATION

To familiarize yourself with the winch, run it for a few minutes to understand the controls and the “feel” of the winch. Pay particular attention to the controls and how they operate. If the winch has air controls on the brake or clutch, or both, operate them to see how they work and the direction of activation of the controls. If the winch is hydraulically powered, make sure you understand which way the winch will rotate when the control lever is moved.

Always make sure that all people are clear of the load and of the cable area before beginning a winching operation. A broken cable can fly in any direction.

If you are using a mechanically powered winch, learn to pay close attention to the truck engine to sense a possible overload. If using a hydraulic winch, do not attempt to defeat the relief valve. If you have any doubts about the capability of the winch to lift or move a load, either put a “snatch block” in the line or get a bigger piece of equipment.

The typical winch operating cycle consists of the following steps:

- (a) Disengaging the winch dog clutch and pulling off enough cable to allow hooking the load. If the winch is equipped with a manually operated drum brake, use it to keep the cable from “bird-nesting” while being pulled off. Note: The drum brake is for free-spooling cable only. It is not intended to be a load-holding brake and must not be used as such.
- (b) After hooking to the load, engage the dog clutch and release the drum brake, if the winch is so equipped. Make sure the clutch is fully engaged. Begin winching the load slowly, watching carefully to insure that the load is moving normally and that no one is in the immediate area of the load or of the cable.

## WINCH MOUNTING

You must make sure that your winch is securely mounted in order for it to function properly and to insure safe operation. The mount must be flat to insure proper alignment between the gearbox side, the drum, and the clutch. A rule of thumb to use when selecting bolts to mount the winch is to use the same size and number of bolts to fasten the winch to its mount as we use to fasten the gearbox and end housing to the winch frames. Winches must never be fastened directly to the frame of a truck.

All bolts used to mount the winch should be Grade 5 or better and should be carefully tightened to the proper torque value for their size. All moving parts used to drive mechanical winches should be secure and guards used, if they are in accessible locations. If the winch being mounted is hydraulically driven, make sure the system is clean, in line filtration installed and that all components function properly, especially the relief valve.

## WINCH BREAK-IN

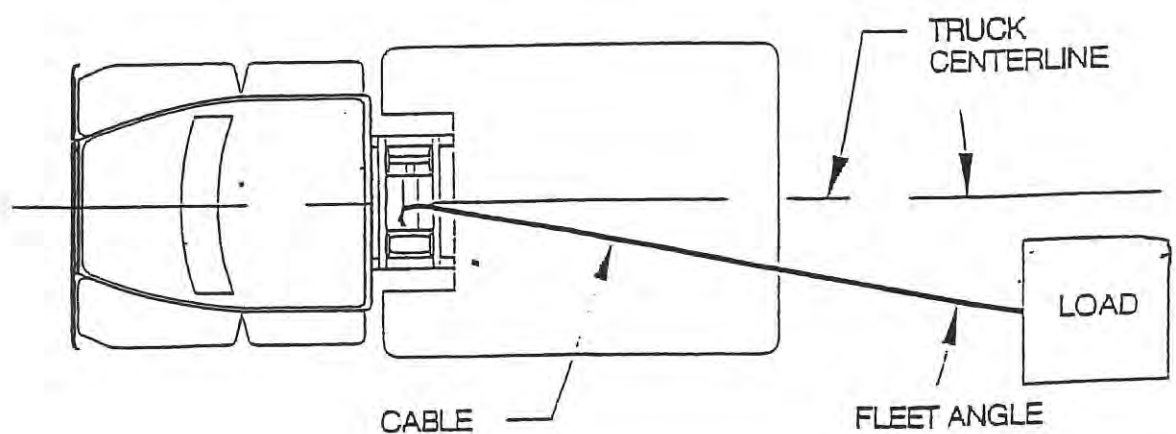
Winches, like any other kind of machinery, require a "break in" to perform well and to maximize their life. The following guidelines should be used in the break-in of APE winches.

Use extreme care when first spooling cable onto the winch. Do NOT run the winch at high speeds when performing this operation. Make sure that the cable is unrolled in a line (to prevent kinks) and SLOWLY inhaul the winch to install the cable. Do not exceed one half-rated load or one half-rated line speed for the first thirty minutes of operation. This will insure that the worm and gear have an opportunity to wear in properly. Periodically, check the gearbox for temperature rises and allow the winch to cool down between pulls. Worm gear winches are designed and intended for intermittent duty applications only; using them in extremely long pulls may generate excessive heat and shorten the life of the winch.



# THE IMPORTANCE OF A PROPER FLEET ANGLE

Maintaining the proper fleet angle is important to the success of your winching operation, the life of your winch and the life of the cable you are using. The fleet angle can best be described by the following illustration:

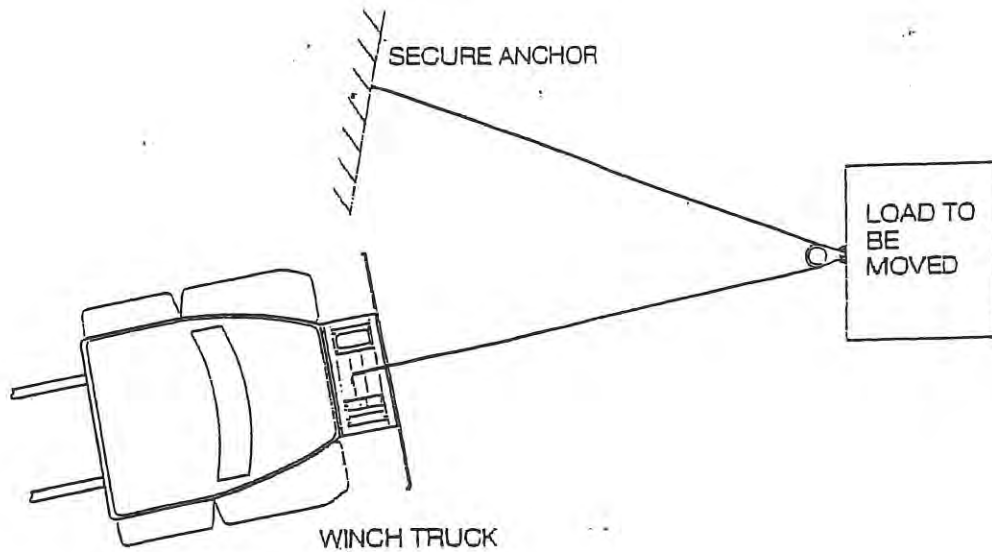


The fleet angle should be kept as small as possible to insure proper spooling and to maximize cable and winch life. To promote even cable spooling, keep the fleet angle below three degrees. Whenever possible, spool through a block at the back of the truck body. Never pull directly against the flange of the winch cable drum as this may cause the cable or the winch to be structurally compromised.

If you are using a front mounted winch for vehicle recovery, use a snatch block to avoid pulling sideways on the winch. If your winch is equipped with a four-way roller and you absolutely must pull against a side roller, do so only for as long as is necessary and carefully watch the cable on the drum. It will pile up on one side of the drum and you must insure that it doesn't jump over the drum flange. When you are finished using the winch in a manner where the cable doesn't spool evenly, disengage the clutch and pay out the uneven cable. Then slowly re-spool the cable making sure that it lies evenly.

## USING A SNATCH BLOCK

By using a snatch block, you effectively cut the load on the winch in half. A snatch block should be used any time you have a concern about the ability of the winch or cable to move a load. The following instruction shows one way to rig such a block.



## CABLE CONSIDERATIONS

As the number of layers of cable on a winch increases, the rated capacity of the winch goes down. If you are operating at near the top of the drum flanges, the effective rating of the winch is about half of what it is on the first layer. You should therefore, only keep as much cable on the winch as you need for your job.

Never use larger or smaller cable on your winch than is recommended for it. The use of larger cable will not allow you to pull larger loads.

Consult your local cable supplier for recommendations on the best type of cable and hardware to use in your specific information.

# WINCH MAINTENANCE

A winch, like other types of machinery, needs to have regular maintenance if it is to perform properly, give lasting value, and provide safe winching. Good maintenance consists of two parts, a daily inspection and periodic servicing.

Each day, or after every one or two hours of winch use, the following items should be inspected and adjusted, if necessary:

- 1) If the winch is mechanically driven, check all drive components for alignment and tighten mounting. If it is hydraulically driven, check for leaks and for proper fluid level in the hydraulic reservoir.
- 2) Check the cable for excessive wear, for broken strands and lubrication.
- 3) Check the automatic worm brake for proper adjustment and adjust it if necessary.
- 4) Check the drum clutch to make sure it is fully engaging when shifted in. Make adjustments if necessary.

Once a week, or every 10 hours of operation, the following tasks should be performed for proper maintenance of you winch;

- 1) Lube all bushes which are equipped with grease nipples with good quality lithium-based chassis lube.
- 2) Inspect the oil level in the winch gearbox and add lubricant if necessary.
- 3) Lubricate the cable based on your wire rope supplier's recommendations.

Every six months, the gearbox should be drained and filled with new, clean gear lubricant. All APE worm gear winches should be filled with EP140 gear lube, ideal for most conditions. If the ambient temperatures where your winch will be working will not exceed 0 degrees C, you can use EP90.

All APE worm gear winches (excluding 8000lb models) are fitted with a grease nipple in the drum and require greasing with quality lithium based grease.

We recommend the use of CASTROL ALPHA 460 for the APE 45,000/100,000/125,000LB models.

# AUTOMATIC WORM BRAKES

APE winches are optionally equipped with an automatic worm brake to hold suspended loads. If your winch is not equipped with one, it is intended for pulling loads only.

The worm brake is an important safety feature of your winch and must be maintained properly. There are two types of worm brakes used on APE winches:

- 5) Single-disc wet brakes (conventional mechanical style, APE8 to APE 30)
- 6) Multiple-disc failsafe brakes (spring applied hydraulic release, APE45/100/125). The use of a shuttle valve may be necessary.

Each of these types is designed to operate in the same manner. As a load is hauled in, the brake is released and the load is moved or raised.

As the load is stopped, the brake engages and prevents it from falling.

The most common APE worm brake is the single-disc style and when the operator begins to pay out cable to lower the load, he must overcome the drag of the brake to lower the load.

In order for this brake to operate properly, it must be set to engage in the pay out mode. To check this, run the winch for one minute under no load in both directions at low speed. If there is evidence of heat build-up in the pay out direction, the brake is installed properly. If the heat rise occurs in the inhaul direction, the brake is installed backwards and must be changed.

Most winches are set up to spool over the drum to the load. If the winch is set up in this manner and you decide to spool the cable under the drum, you must reverse the direction of brake engagement.

## NOTE

APE 45000/100000/125000 winches are fitted with hydraulic motors with integral multi disc brakes designed to release the discs on actuating the hydraulic pressure.

# BRAKE ADJUSTMENT

In general, worm brakes on APE winches should only be adjusted enough to hold the load you are currently working with. Over adjustment will result in excessive heat generation and brake wear.

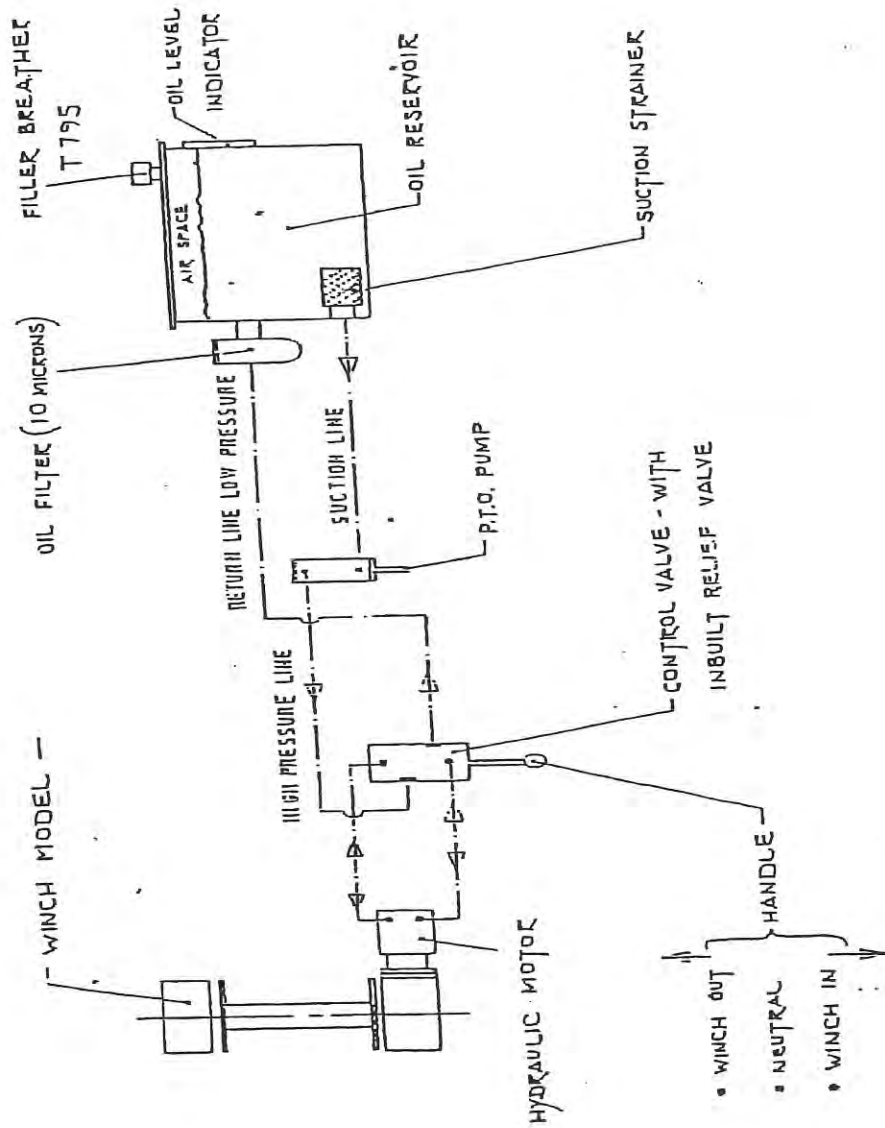
The most positive way to insure proper brake adjustment is to lift a test load just barely off the ground, jog the winch out and see if the brake holds. If it doesn't, tighten the brake slightly and try it again. If the brake is tightened completely and the load still drifts, the brake must be serviced. DO NOT use the winch to lift loads with a worn brake.

Versions of the APE 45 are equipped with a multiple disc failsafe brake which is not adjustable.

**CAUTION DURING REMOVAL!  
SPRING LOADED!**

For detailed service instructions contact your APE Winch distributor or the factory.

# HYDRAULIC WINCH CIRCUIT



**HYDRAULIC OIL TANK OR RESERVOIR** - must be spotlessly clean and should contain a permanent suction strainer of 125 microns inside the tank, and a return line filter of 10 microns outside the tank with replacement cartridge.

**HYDRAULIC OIL** - the ultimate (SAE Grade 10 hydraulic oil, under cold to normal temperatures) is Castrol TQ Dexron Automatic transmission fluid - red - as used in your motor cars automatic transmission. But it is very expensive. (Do **NOT** fill your winch gear box with this oil or damage to the gears will occur!).

Alternatively, as a quality less expensive oil, you should use Castrol AWS32, (SAE 10 Viscosity). Under very hot conditions you can use Castrol AWS 68 (SAE 20 Viscosity). These oils **must** be filtered and **all** hoses leading to the winch motor must be **FLUSHED** by joining these hoses to form a continuous loop and allow the system oil to flow through these hoses for at least 5 minutes before connecting to the winch motor. If you ignore this very important instruction damage will occur.

Some people choose to ignore this fact **BUT** hydraulic oil must be **SURGICALLY CLEAN**. If this condition is achieved, you will ensure maximum life of all parts in the hydraulic system. When **others** are broken down fixing up hydraulic problems caused by dirty oil, you will still be winching!!! If this procedure is not carried out Hydraulic Motor failure will occur and you will void your warranty.

**NOTE - Pressure and flow may differ depending on our supply of hydraulic motors  
Please use flow and pressures as stamped on winch housing.**

**A.P.E. COMMERCIAL WINCHES**  
Condensed Performance Data

WINCH SERIES	Winch Part No.	Line Pull Bare Drum (kg)	Worm Ratio	Max. Oil Flow (lpm)	Relief Pressure (Bar)	Mean Line Speed (m/min)	Recommended Wire Rope
APE 8	1001A-0000	3640	50:1	55	166	7.5	8mm x 30m
OPTIONAL	Hy-speed			57	175	13.1	
APE 12	1008A-0000	5450	40:1	75	166	8.5	13mm x 30m
OPTIONAL	Hy-speed					12.5	
APE 15	1009A-0000	6820	35:1	75	160	8.5	14mm x 30m
APE 20	1014A-0000	9100	41:1	75	175	7.5	16mm x 30m
APE 30	1016A-0000	13640	38:1	90	160	5.5	18mm x 30m
APE 45	1017A-0000	20450	42:1	180	150	6	22mm x 30m
APE 100/125	1025-HYD-40	45454	40:1	165	214	4.5	32MM X 45M



**WINCH INDUSTRIES PTY LTD**  
**GENERAL WARRANTY**

Winch Industries Pty. Ltd. warrants parts and labour, directly to the first purchaser of each winch against defects in material and workmanship appearing under normal use and service only for a period of two (2) years from the date of purchase. If you discover a covered defect, Winch Industries will, at its option, repair, replace or refund the purchase price of this winch or winch parts at no charge to you, provided you return it during the applicable warranty period, transportation charges prepaid, to Winch Industries Service Department or Factory Authorized Servicing Distributor. (You can obtain additional information from Winch Industries directly at the address printed below). Please attach your name, address, telephone number, a description of the problem and a copy of a bill of sale bearing the appropriate proof of original retail purchase, to each product returned for warranty service. To obtain any warranty coverage, it is absolutely necessary that you present proof of purchase acceptable to Winch Industries, such as a copy of the purchase receipt.

This warranty applies only to winches sold and/or manufactured by Winch Industries, which can be identified by the "Winch Industries" trademark, trade name or logo affixed to them. This warranty does not apply if the product has been damaged by accident, abuse, misuse, collision, overloading, exhaust, or misapplication, or has been improperly installed, has been improperly used, has been improperly serviced, or has been modified without the written permission of Winch Industries. This warranty does not apply if any Winch Industries serial number has been removed or defaced. The finish and wire rope on the product are excluded from this warranty.

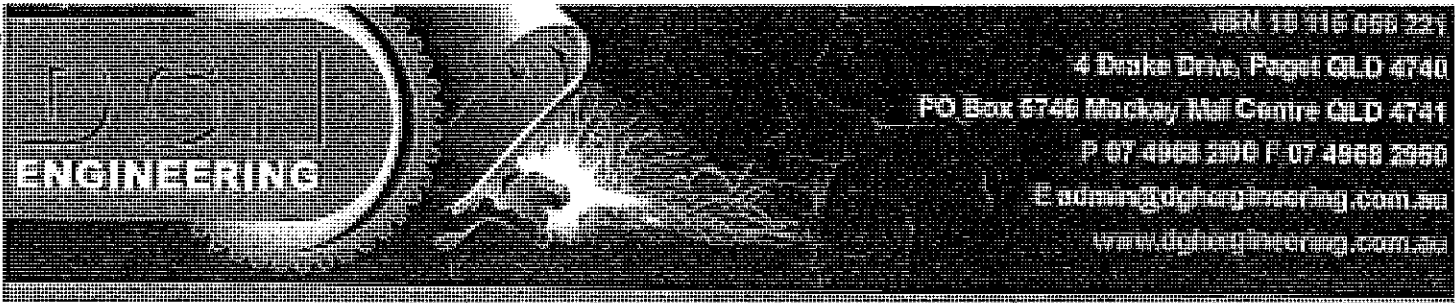
EXCEPT AS EXPRESSLY STATED HEREIN, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHICH BY LAW MAY NOT BE EXCLUDED IS LIMITED IN DURATION TO TWO (2) YEARS FROM THE DATE OF ORIGINAL RETAIL PURCHASE OF THIS PRODUCT.

THE WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Winch Industries dealer, agent or employee is authorised to make any modification, extension or addition to this warranty.

IN NO EVENT IS WINCH INDUSTRIES RESPONSIBLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING, BUT NOT LIMITED TO LOST PROFITS, DOWN TIME, GOODWILL, DAMAGE TO OR REPLACEMENT OF EQUIPMENT AND PROPERTY, LOSS OF USE OF THE PRODUCT OR OF ANY ASSOCIATED EQUIPMENT, OR COST OF SUBSTITUTED PRODUCTS.

WARRANTY ENQUIRIES SHOULD BE DIRECTED TO:

**WINCH INDUSTRIES PTY. LTD.**  
**2 COIN STREET, MOOROOKA, QLD, 4105**  
**PHONE 07 3875 1568 FAX 07 3277 4316**  
**EMAIL - [admin@winch.com.a](mailto:admin@winch.com.a)**



## CERTIFIED WEIGHBRIDGE CERTIFICATE

CERTIFIED NO. 101

COMPANY M & P Services

DATE 19/6/17

DESCRIPTION BT27.

VEHICLE REGISTRATION 811XFM.

STEER WEIGHT 3.4 tonnes

DRIVE WEIGHT 4.06 tonnes

TRI 1 WEIGHT \_\_\_\_\_ tonnes

TRI 2 WEIGHT \_\_\_\_\_ tonnes

GROSS WEIGHT 7.46. tonnes

DGH SIGNATURE 