



OPERATIONS AND MAINTENANCE MANUAL

TILT-TRAY SAFETY PROP

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1 Safety Section

1.1 Foreword

Basic requirements for the safe operation of this plant are outlined in the following safety sub-sections. Personal responsibility for safety is essential in every aspect of operation to ensure the safety of maintenance and other operational personnel. Basic requirements for the safe operation of Tilt-tray Safety Prop are outlined in the Safety Section and hazards involved with its use are outlined with appropriate responses provided.

Basic safety precautions need to be met before operating or maintaining this equipment. The operation of the Tilt-tray to the original equipment manufacturers (OEM) operational instructions is to be always adhered to. The operation of the tilt-tray safety props is only to be used in conjunction with the OEM recommended safe operation of the Tilt-trays

In the Safety sub-section key words and definitions, safety messages, general hazard information, identification of hazards and their associated tags and avoidance and prevention tags will be explained.

In the Operation sub-section instructions will be outlined to ensure the safe operation of this the Tilt-tray Safety Props

In the Maintenance sub-section, training requirements will be outlined to ensure that maintenance, repairs and upgrades are performed safely and with minimal risk.

1.2 Safety

Key safety words used throughout this manual have been outlined to provide definition as to their meaning. These safety words require attention and address personal or machine safety and protection.



DANGER – This alert identifies a hazardous situation which could cause death or serious injury if appropriate safety measures are not taken.



WARNING – This signal alerts to the potential danger or risk which could cause death or serious injury if appropriate safety measures are not taken.



CAUTION – This alert identifies a hazardous situation which could cause minor to serious machine damage if appropriate measures are not taken.



IMPORTANT – This signal alerts to measures necessary to avoid machine damage.



NOTICE – This alert identifies a hazardous situation which could result in damage to the machine or reduction of machine life if appropriate measures are not taken.

1.3 General Hazard Information

Operators must be trained in the operation of:

- The Tilt-tray and according to manufacturers' instructions
- The Tilt-tray Safety Props as detailed in this Manual

Operators must be deemed to be competent maintenance personnel and have adequate knowledge of the limitations of the Tilt-tray, maintenance environment and site-specific safety protocols such that general maintenance tasks can be carried out safely.

Personal protective equipment is required specific to maintenance tasks to ensure safety within the workplace. This is to be determined by maintenance personnel and site safety protocols.

Risk assessments are to be carried in out in accordance with operational requirements of the workplace in conjunction with the instructions provided in this manual for the safe operation of the Tilt-tray Safety Props

2 PRODUCT INFORMATION SECTION

The Tilt-tray Body Prop system are supplied in pairs of 1245mm and 825mm lengths to provide maintenance access to the Tilt-trays at two different tray inclines. The Props are supplied with retaining pins. The props have been specifically design for Tilt-tray body trucks with VIN#:JALFVZ34SG7000355; VIN#:JALFVZ34SG7000354 and are not approved for use for any other purpose than that outlined in this manual

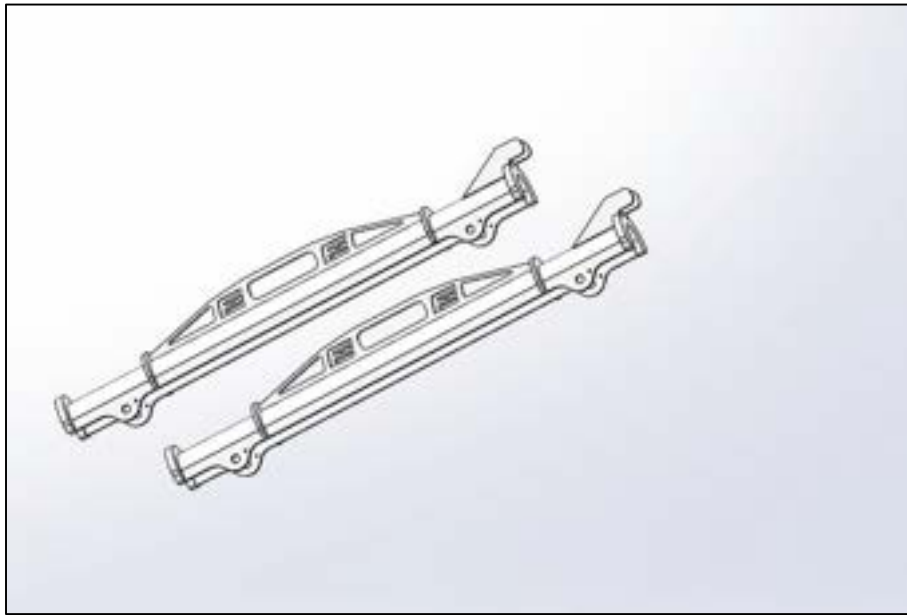


Figure 1. Pair of 825mm long Tilt-tray Body Props

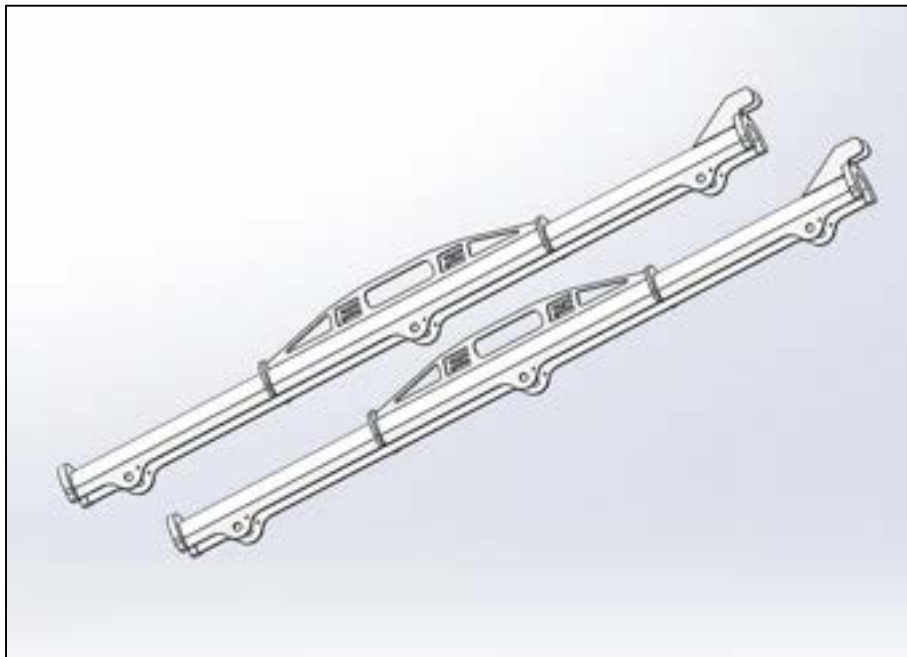


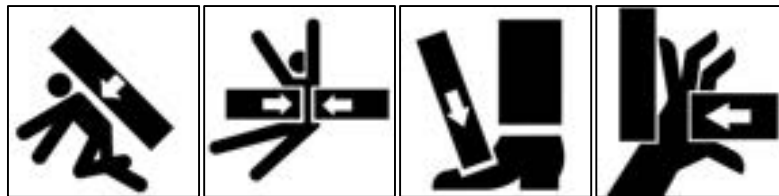
Figure 2. Pair of 1245mm long Tilt-tray Body Props

3 OPERATION

3.1 Pre-Start

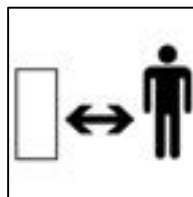
Prior to the installation of the Tilt-Tray Body Props following steps must take place to ensure safe operation

STEP 1: Establish an exclusion zone around the Tilt-tray truck to prevent unauthorised access to the area.



Unauthorised access while Tilt-tray is being operated has the potential to cause serious crushing injury and may result in death.

- **ENSURE UNAUTHORISED PERSONNEL ARE KEPT SAFE BY ESTABLISHING AN EXCLUSION ZONE ACCORDING TO SITE SPECIFIC PROTOCOLS**



STEP 2: Ensure the Tilt-tray is clear of any payload prior the installation of the Safety Prop system.



A loaded tray while using the Tilt-tray Body Props may cause overload and Safety Prop failure during use and has the potential to cause serious crushing injury and may result in death.

•ENSURE TILT-TRAY IS EMPTY BEFORE USE

STEP 3: Ensure the Tilt-tray vehicle is fundamentally stable.



Where the Tilt-tray is not fundamentally stable there is a risk that personnel may suffer crushing injury due to vehicle movement

• ENSURE TILT-TRAY IS FUNDEMENTALLY STABLE BEFORE USE

STEP 4: Operator Training

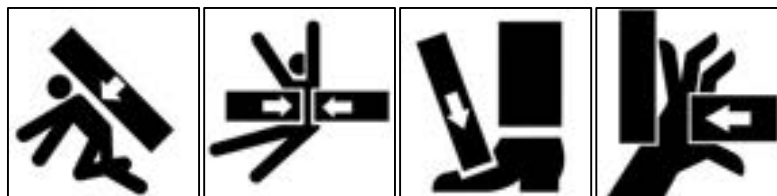
- A. Ensure that the Tilt-tray operator is trained in the use of the Tilt-tray according to manufacturers' instruction
- B. Ensure that the Tilt-tray operator has any relevant competencies related to the site operational requirements



Use of the Tilt-tray by untrained personnel may result in any number of potential hazards.

- ***ENSURE OPERATORS ARE TRAINED IN THE SAFE USE OF THE TILT-TRAY***

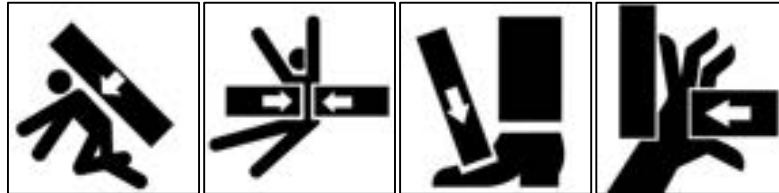
STEP 5: Check Safety Props for straightness and signs of damage or cracking. Where damage is detected remove from use immediately.



Using damaged Safety Props has the potential to experience structural failure during use and cause serious crushing injury and may result in death.

- ***ENSURE ONLY DEFECT-FREE SAFETY PROPS ARE USED***

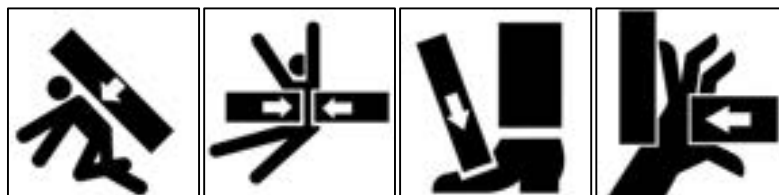
STEP 6: Check Tilt-tray has been fitted with inspected, operational, direct mounted counterbalance valves.



Where counterbalance valves are not directly fitted to the lift cylinders, the hazard associated with hose failure while the Safety Props being installed is serious crushing injury and may result in death.

- **ENSURE LIFT CYLINDERS ARE FITTED WITH DIRECT MOUNTED COUNTERBALANCE VALVES**

STEP 7: Check Tilt-tray lift cylinders, cylinder pins and clevises are straight, intact and are free from signs of damage or cracking.



Damage in the Tilt-tray lift cylinders compromise the safe support of the Tray. Failure of critical components in the Lift Cylinders has the potential to experience structural failure during use and cause serious crushing injury and may result in death.

- **ENSURE LIFT CYLINDERS ARE FREE OF DEFECTS BEFORE FITTING SAFETY PROPS**

STEP 8: Check Tilt-tray Vehicle Identification numbers are either of the following. The Safety Props are approved for use on the following Tilt Tray Vehicles only:

VIN#: JALFVZ34SG7000355 ; VIN#: JALFVZ34SG7000354



Use of the Safety Props on unapproved vehicles may result in any number of potential hazards.

- **ENSURE SAFETY PROPS ARE ONLY USED ON TILT-TRAYS**

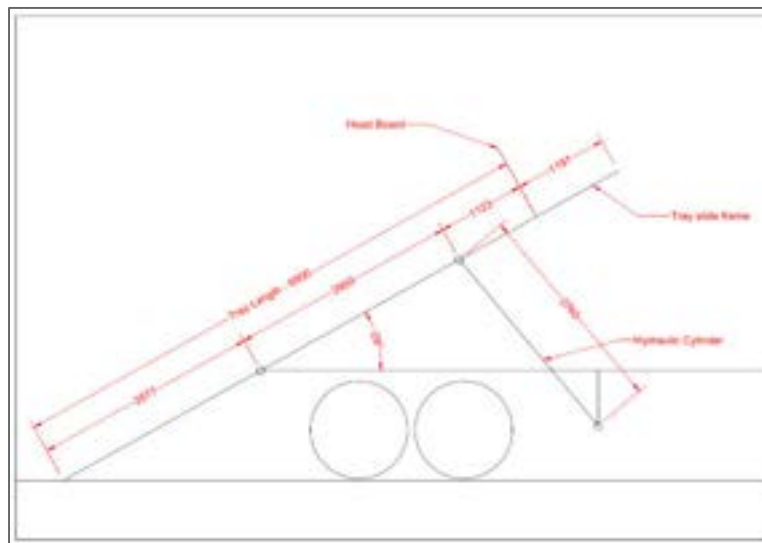
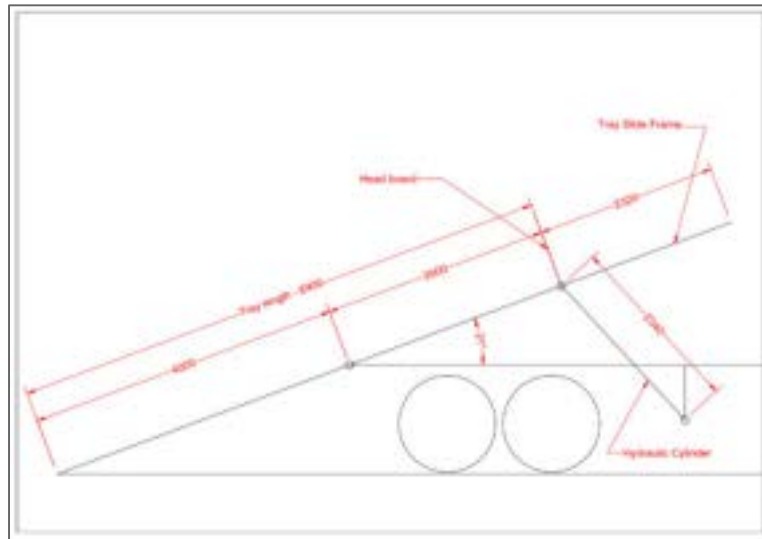
VIN#: JALFVZ34SG7000355

VIN#: JALFVZ34SG7000354

3.2 Installation of Safety Prop

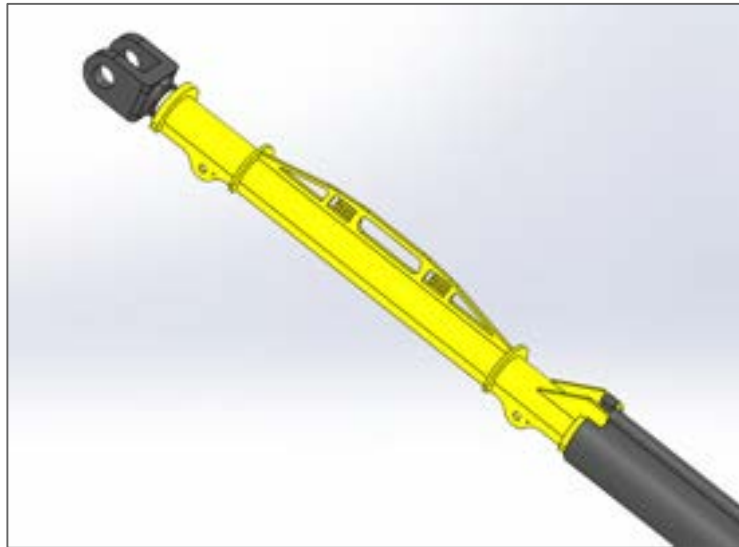
Following the above pre-start checks the following steps shall be taken to ensure the safe use of the safety props.

STEP 1: Raise the Tilt-Tray to one of the following positions to suit the 825mm or 1245mm Safety Props



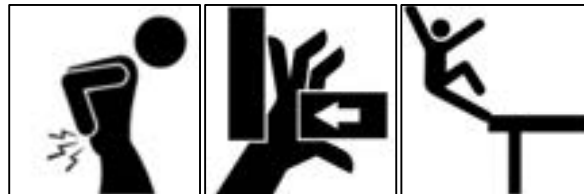
STEP 2: Shut down vehicle and isolate as per site procedures before fitting Safety Props

STEP 3: Position the Safety Prop as shown below with the handle on the upper side of the cylinder and fit retaining pins. Use a step to assist in fitting the upper retaining pins if necessary.



 **CAUTION**

HEAVY 10KG

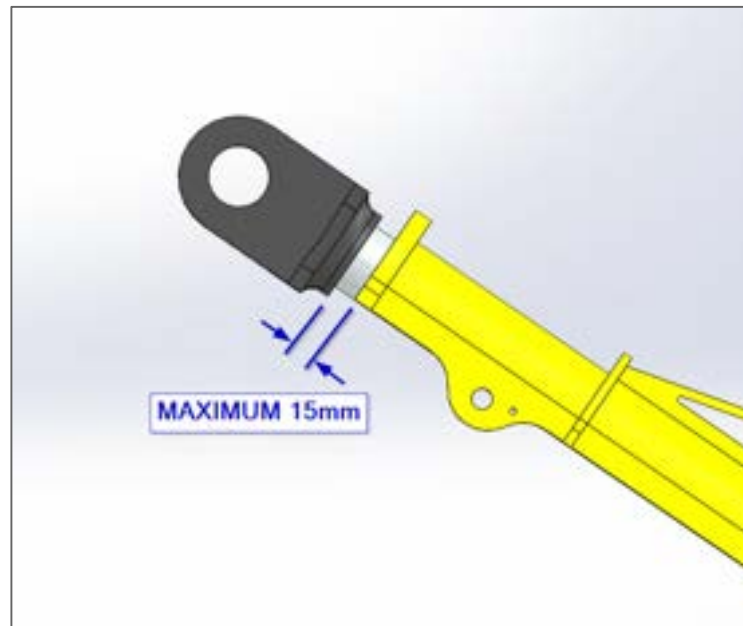


Safety Props weigh up to 10kg and care must be taken when handling and fitting to the Tilt-tray lift cylinders to avoid strain injury and crushing injury between the Safety Prop and other objects. Climbing on the Tilt-tray chassis is to be avoided to avoid the risk of falls and the use of approved step or platform to be used to assist reach where necessary.

- **ENSURE CARE IS TAKEN IN THE HANDLING SAFETY PROPS**
- **LINCH PIN CHECKED FOR ENGAGEMENT**
- **DO NOT CLIMB ON THE TILT-TRAY**



STEP 4: Having fitted the Safety Props, de-isolate and use a spotter to assist in lowering the Tilt Tray into position as show below with the with a maximum gap of 15mm between the Safety Prop and the Rod-end Cylinder Clevis



 **WARNING**



It is possible for the Safety Prop to become overloaded and result in crush injury or death in the following circumstances:

1. A significant gap exists between the top of the Safety Prop and the Rod-end Cylinder Clevis and spontaneous failure occurs in a hydraulic component in the cylinder causing the Tilt-tray to impact and overload of the Safety Prop.
2. The Tilt-tray Lift Cylinder is lowered under hydraulic power onto the Safety Prop and develop high levels of hydraulic pressure in the cylinder causing the Safety prop to become overloaded, become structurally compromised and fail.

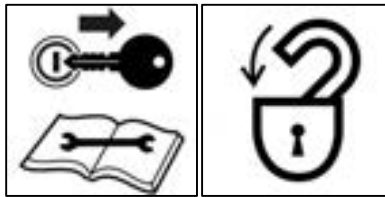
To avoid overloading the Safety Prop:

**•ENSURE A THE GAP BETWEEN THE SAFETY PROP
AND CYLINDER CLEVIS IS 0-15mm**

STEP 5: Power down and isolate the Tilt-tray vehicle. Add lock-out tags to isolator to prevent unauthorised startup as per site procedures.

 A yellow rectangular sign with a black exclamation mark inside a triangle on the left and the word "CAUTION" in bold black capital letters on the right. A white rectangular sign with a black border and the word "IMPORTANT" in bold black capital letters in the center.

Unauthorised startup of the Tilt-tray vehicle while maintenance the Safety Props are installed, and maintenance activities are taking place may result in any number of potential hazards.



**• POWER DOWN AND ISOLATE THE TILT-TRAY VEHICLE
PRIOR TO UNDERTAING MAINTAINANCE ACTIVITIES**

• ATTACH A “DO NOT OPERATE” WARNING TAG TO THE TILT-TRAY VEHICLE

STEP 6: Carry out maintenance work as required using site risk mitigation measures, eg. Job Safety Assessments etc. No maintenance work is to be carried out on either of the lift cylinders.



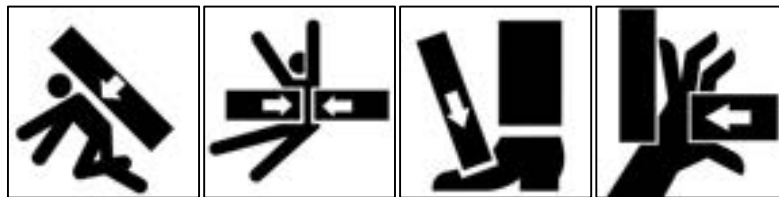
Maintenance on the lift cylinder may compromise the function of the safety props resulting in crush injury or death.

- ***ENSURE NO WORK IS CARRIED OUT ON TILT-TRAY LIFT CYLINDERS OR MOUNTING STRUCTURES***
- ***WHERE MAINTENANCE WORK IS REQUIRED TO BE UNDERTAKEN ON THE LIFT CYLINDERS, JOB SPECIFIC RISK ASSESSMENT MUST BE CARRIED OUT AND THE SAFETY PROPS NOT BE USED IN SUPPORTING THE TILT-TRAY***

3.3 Shut down

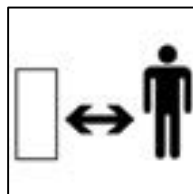
The following shutdown procedure is outlined

STEP 1: De-isolate and remove lock-out tags from Tilt-tray vehicle ensuring that the exclusion zone is maintained, and no un-authorized personnel are near the Tilt-tray vehicle



Unauthorised access while Tilt-tray is being operated has the potential to cause serious crushing injury and may result in death.

- ***ENSURE UNAUTHORISED PERSONNEL ARE KEPT SAFE BY MAINTAINING THE EXCLUSION ZONE ACCORDING TO SITE SPECIFIC PROTOCOLS***



STEP 2: In the event that the Tilt-tray Lift Cylinder Clevis has come into contact with the Safety Prop due to hydraulic creep, raise the Tilt Tray to remove any load from the Safety Props. Where creep has been observed further investigation and servicing or replacement of the counterbalance valve undertaken

STEP 3: Remove the retaining pins and Safety Props. Use a step to assist in fitting the upper retaining pins if necessary.



Safety Props weigh up to 10kg and care must be taken when handling and removing from the Tilt-tray lift cylinders to avoid strain injury and crushing injury between the Safety Prop and other objects. Climbing on the Tilt-tray is to be avoided to avoid the risk of falls and the use of approved step or platform to be used to assist reach where necessary.

- ***ENSURE CARE IS TAKEN IN THE HANDLING SAFETY PROPS***
- ***LINCH PIN CHECKED FOR ENGAGEMENT***
- ***DO NOT CLIMB ON THE TILT-TRAY***

STEP 4: De-isolate Tilt-Tray & remove 'Do Not Operate' tags

STEP 5: Lower and retract the Tilt-Tray into a safe position.

STEP 6: Remove exclusion zone

STEP 7: Store Safety Props in a safe place to mitigate the likelihood of damage to the Safety Props

4 MAINTENANCE

Maintaining the structural integrity of the Safety Props is of critical importance to the ongoing safety of maintenance personnel. The following actions are required to be implemented into site maintenance schedules:

| Action | Personnel | Frequency |
|--|------------------------|-------------------|
| Prestart Checks for: <ul style="list-style-type: none"> •Straightness •Corrosion •Damage •Signs of Cracking •Non-approved Modifications or repairs | Maintenance personnel | Prior to each use |
| Visual Inspection: <ul style="list-style-type: none"> •Straightness •Corrosion •Damage •Signs of Cracking •Non-approved Modifications or repairs | Qualified Rigger | 3 monthly |
| Visual inspection/NDT checks for: <ul style="list-style-type: none"> •Straightness •Corrosion •Damage •Signs of Cracking •Non-approved Modifications or repairs | Engineering assessment | 5 yearly |