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Blocking and Jack Stand Procedures	

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1. PURPOSE

1.1. To educate workers and Students of the proper procedures with regards to blocking and use of Jack Stands when supporting vehicles and machines.

2. SCOPE




2.1. This Safe Work Procedure is to apply to any use of jacks, jack stands, wooden blocking or other suitable alternative supporting mechanism used to support any elevated loads while being worked on by any member of the TRU community. It specifically includes the Automotive, Heavy Duty and Commercial Transport programs, as well as any other TRU related activity involving similar operations.

3. PRECAUTIONS

POTENTIAL HEALTH & SAFETY HAZARDS

HAZARD		TO PROTECT YOURSELF
PINCH POINTS There are gears and exposed moving parts on machinery.		Use LOCK-OUT procedures when performing maintenance or conducting any work within 12" of an exposed pinch point. NEVER put your hands or feet near an exposed pinch point or gears!
FOOT INJURY		Approved protective footwear is needed when there is the risk of foot injury due to slipping, uneven terrain, abrasion, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock and any other recognizable hazard

4. PERSONAL PROTECTIVE EQUIPMENT

	Safety glasses must be worn at all times in work area!
	Work gloves must be worn when handling wooden blocks and jack stand to prevent injury to hands
	Work Boots must be worn at all times while in Mechanical Shop area.

5. MINIMUM STANDARDS

All hydraulic jacks, transmission jacks, engine stands, vehicle support stands (jack stands), mechanical screw jacks, mechanical bumper jacks, mechanical scissors jacks, mechanical frame jacks, upright type mobile lifts, service jacks, wheel dollies, shop cranes, swing type mobile lifts, scissors type mobile lifts, auxiliary stands, or high reach supplementary stands purchased and used by Thompson Rivers University will meet or exceed the specifications of any of the following standards:

- American National Standard Institute /American Society of Mechanical Engineers ANSI/ASME PALD-1993 Parts 1 through 15 & 17) Portable Automotive Lifting Devices
- National Defense Standard D-49-001-051/SF-001 Specification for Trestles, Motor Vehicle Maintenance

To determine if other standards might be available or acceptable, contact the TRU Occupational Health and Safety Department

6. PROHIBITIONS

1. Shop built stands used to support automotive or mobile equipment loads shall not be used.
2. Wheel rims, concrete blocks, metal pipe, or any other metal item not specifically manufactured for the support of vehicles or mobile equipment shall not be used at any time as a support for vehicles or mobile equipment.
3. Wilmar brand jack stands shall not be used.
4. Log ends or rounds of wood shall not be used as wooden blocking or supports.

7. RESTRICTIONS

1. Loads placed on jack stands shall not exceed 50% of the rated capacity of the jack stand (i.e. if a jack stand rating is indicated by the manufacturer as 8 tons, the maximum permitted load within TRU operations is limited to 4 tons).
2. Wooden blocking used to support vehicles or equipment shall be in good condition.
Minimum size: 4" x 4" and **Maximum size:** 8" x 8" (nominal dimensions).
3. Lumber of two inch nominal dimension may be used as a single spacer only; not for blocking (i.e. 2" x 4", 2" x 6", 2" x 8", 2" x 10", etc.)

8. GENERAL

1. Students shall only elevate and block vehicles or mobile equipment under the direct supervision of an instructor.
2. Any re-adjustment of the load on any support mechanism shall be supervised by the instructor.
3. Where prolonged placement of equipment on support structures occurs, the support structures shall be re-inspected by an instructor prior to anyone going beneath the elevated load.
4. All projects which require the raising of the vehicle or mobile equipment through the use of jacks shall use two forms of support at all times.
5. Jacks which are used to raise equipment shall be replaced by rigid supports (i.e. jack stands or wooden blocking) as soon as practicable. Secondary supports shall be installed at the same time and concurrently with the raising of the load.
6. Positioning of support structures (jack stands or wooden blocking) shall be done in such a manner as to ensure firm, positive contact between the support and the load.
7. Any equipment used to raise or support loads shall be inspected prior to its use.
8. Instructors must keep a maintenance, inspection, modifications and repairs records for each automotive lift.
9. Properly shaped, manufactured wheel chocks shall be used to chock the wheels of the vehicle or mobile equipment to prevent moving.
10. The maintenance manual for the vehicle or mobile equipment shall be consulted prior to jacking or supporting any unit.

9. JACK STANDS (VEHICLE SUPPORT STANDS)

1. Loads placed on jack stands shall not exceed 50% of the manufacturer's rated capacity of the jack stand (i.e. if jack stand rating is 6 tons, maximum permitted load is limited to 3 tons).
2. Jack stands shall **always** be used in pairs.
3. All jack stands shall be provided with labels indicating the proper procedure to be followed (generally provided by the manufacturer).
4. Secondary supports shall always be used with jack stands. This may be in the form of an additional set of jack stands, wooden blocking, or other suitable means of support capable of holding the load.
5. Jack stands shall be placed on a hard level surface capable of sustaining the load
6. Secondary blocking is to be used on any elevated machines or loads.
7. Loads must be centered on the saddles, the loads and stands must be stable, and the jack stands saddles must contact a vehicle surface which can support the load.

8. Instructors will ensure that jack stands are used correctly to prevent them from being shock – loaded

10. WOODEN BLOCKS

1. Wooden blocking shall be made from Douglas fir, Oak species of a suitable size to ensure strength (min. nominal dimensions 4" x 4").
2. Softwood species such as pine, spruce or cedar shall not be used. None of the hardwood species which occur naturally in BC are suitable for use as blocking.
3. Wooden blocking shall be free from rounded edges, visible rot, cracks, checks or splits.
4. Oil soaked wooden blocking shall be inspected for suitability prior to use.

11. SUMMARY OF CHANGES

Revision #	Date	Change (include section #)	Issued By
	1/24/2014	NEW	OHS Officer