**ACTIVITY : SERVICING/ DRIVING OF VEHICLE AND MAINTENANCE OF**

**VEHICLE WASHING RAMP**

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* Objective : - Safe and quality servicing of vehicles and maintenance of Vehicle washing ramp.
* Scope : - Maintenance and servicing of vehicles
* Ref. : - Vehicle Manual & Service Book
* Responsibility : - Engineer In charge & Mechanic on job

**PPE –s to be used:**

* + Gum Boot / safety shoes, Rubber hand gloves, and safety goggle (Depending on the job) ,Helmet,

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| --- | --- | --- |
|  Work no 1 | : | Washing of Vehicles on Washing Ramp |
|  Work No 2 | : | Servicing/ Maintenance the Vehicle |
|  Work No 3 | : | Driving the Vehicle |
|  Work No 4 | : | Maintenance of Vehicle Washing Ramp. |
|  Work No 5 | : | Replacement of Tyre |
|  Work No 6    **Aspect – impact** | : | Battery charging |
| Oil Spillage |  | Land contamination |
| Scrap generation |  | Resource Depletion |
| Oil traced waste generation |  | Land contamination & Resource Depletion |
| Water consumption |  | Resource Depletion |
| Old batteries |  | Hazardous waste |
| Vehicle emission    **Hazards identified** |  | Air pollution |
| ***Mechanical hazard*** | - |  |

* + Trapping between the moving parts of vehicle.
  + Fall of slinged items.
  + Impact of moving / slinged items.
  + Trapping between object/ material being lifted and vehicle.
  + Falling from the height of the ramp
  + Slipping on the ramp
  + Trapping below tyre while changing tyre
  + Fall of material or tools
  + Trapping below tyre while taking vehicle on ramp
  + Failure/Slipping of Hose and hitting the person while the pump is working
  + Water flashing in the eyes while washing
  + Cut on body/hand due to contact with jublee clamp/ sharp object
  + Entanglement
  + Failure of brakes of vehicle while in operation.

**Human behaviour aspect of operators**:

* + Operator nature, alcoholism, casual approach, horse play, use of mobile on work & non usage of PPE’s
  + Leaving behind the keys in the Vehicle, after parking the vehicle

***Chemical hazard*** -

* + Contact with Toxic chemical of battery while handling battery.
  + Blasting of Oil/diesel tank due to contact with Fire.

# Physical hazard -

* Water pressure due to bursting of the water hose
* Cloth piece used to clean vehicle kept on engine head causing heat and then leads to fire
* Electrical hazard:
* Electrical shock while handling electrical appliances/battery.

# Human Hazard

 Horse play while operation high pressure pump

Work No 1: Washing of Vehicles on Vehicle washing Ramp

1. Place the Vehicle on the Horizontal portion of the ramp, Stop the vehicle and remove the keys from the ignition.Provide stoppers for wheels. Keep the vehicle with parking brakes applied
2. Ensure that the vehicle is at the center of the ramp.
3. Ensure all the doors and windows are properly closed during Washing
4. Keep the suction valve of water pump of the Recirculation water storage tank in open condition and fresh water line valve in close condition and start the water pump.
5. Fresh water can be used to clean the vehicle when circulating pit water is dirty
6. Wear safety Goggle, gum boots and rubber hand gloves before starting the pump.. Only authorized person should operate the high pressure pump and wash the vehicles.
7. Unauthorized usage of high pressure pump and washing the vehicle is a punishable offence

1. Check the condition of the hose for suitability. Hold the hose firmly in one hand to resist initial jerk during the start up of the pump and start the pump with the other hand.
2. Use water hose pressure to clean the top and bottom of the vehicle
3. Clean the vehicle with soft cloth. Rubber gloves should be put while wiping the vehicle to prevent rusted sheet metal of the vehicle injuring the hand.
4. After Washing is complete stop the pump
5. Vacuum cleaner to be used to clean the inside of vehicle. Ensure complete safety of wearing PPE’s & other protective measure (Dry Rubber mat below the foot) while working with electrical appliances.
6. Due care to be taken while reversing and placing the vehicle on the Ramp
7. Do not direct the jet of water towards any person; do not indulge in Horseplay while handling high pressure jet for vehicle washing.



Do not leave the keys inside the car while parking

**Work No 2 : Servicing the Vehicle**

1. Place the Vehicle on the Horizontal portion of the ramp Stop the vehicle and remove the keys from the ignition and provide stoppers for wheels. Keep the vehicle with parking brakes applied.
2. Ensure that the vehicle is at the center of the ramp.
3. Conduct all initial rechecks like oil, diesel leakage, tyre pressure (manual) Brake and clutch arrangement etc.
4. Check the level of the Diesel & Oil feed up if requires.
5. Carry out the lubrication of vehicle. Follow work procedure WI/MAINT/93 for lubrication.
6. While working on the vehicle ramp and nearby area take due care to avoid slipping/Falling hazard.
7. Check the condition of the brake pipe and change if require.
8. Take the trial of the vehicle for operational checks like brake checking, Clutch checking etc. and other electrical checking.
9. After all operational trails hand over the vehicle to the concern Vehicle Owner. If any discrepancy noted during operational checks, carry out the checking given in the instruction manual and report to the concern engineer in charge for necessary repair by outside party.
10. For battery replacement, Keep the vehicle in OFF condition and remove the keys from the ignition take out the old battery from the location by removing the +/- terminal clamp. Place the new battery on the location and fix the +/- terminal clam back to battery after checking the suitability of the same. Check the specific gravity of the battery fluid if same is low Return back the old battery back to the store after neutralization of the acid by electrical or replace with buy back system. Charge the battery for 8 hours for recharging.
11. Use Plastic/rubber hand gloves and non skidding rubber mating below the foot while handling battery.
12. For carrying out any welding jobs like welding of leg guard, patching the silencer ensure that battery is disconnected by removing +/- terminal clamp. M. Follow procedure System procedure Sp44 for cutting welding job.

N. Do not carry out the welding cutting operation near the diesel, oil as same can caught fire and blast. If same to be carried out, which is near to the diesel, oil line/tank then remove the same from the vehicle of drain out the entire diesel, oil. O. All the electrical wiring jobs to be carried out taking proper care to avoid shock.

**Work No 3 : Driving the Vehicle**

1. The driver should have valid driving license as per the statutory requirements
2. Ensure the availability of the following documents in the vehicle.
   1. Vehicle registration certificate.
   2. Road tax token (disc)
   3. Pollution under control certificate.
   4. Current insurance certificate.
   5. Fitness certificate

If same is not available report the same to the Engineer in charge for getting the duplicate copies before driving the vehicle.

1. Driver should follow mandatory and cautionary traffic signals both inside and outside the premises laid by the RTO.
2. Carry out the initial check of availability of Diesel, Oil levels in the vehicle, Water in the radiator etc before using the vehicle in operation.
3. Carry out the start up test for the working of brake, hand brake, clutch operation, reverse horn & electrical item checks. If any discrepancy noted report immediately to the engineer in charge to rectify the same. Do not use the vehicle unless all above points are rectified.
4. Drive at the speed of 20 km/hr speed inside the plant premises. Take due care while driving in the crowded area & uneven surfaces.
5. Ensure the safe distance from the other surrounding equipments & Working peoples.
6. Hand brake to be applied while crane is lifting and lowering the material / in idle condition.
7. If loading & unloading activity on sloppy surface is to be carried out then ensure hand brake & stoppers are applied for both front & rear tyres.
8. Vehicle operators should follow the rigger signals while unloading & loading activity is on.
9. While parking, always ensure that by parking the vehicle, it does not cause inconvenience or endanger other road users.
10. After parking, always apply hand brake, remove the keys from the ignition and provide stoppers for rear/front tyres.
11. Do Not Park the vehicle on the sloppy area neither leave the vehicle in the ON condition.



**Work No 4 : Maintenance of Vehicle washing ramp.**

A. Check the condition of the Water of recirculation tank, if the Water is contaminated with dirt/oil Vehicle washing ramp tank need to be cleaned.

*Entering into water tank for cleaning is a confined Space Activity. Below mentioned procedure to be followed*

**FOR MORE DETAILS REFER CENTRALISED CONFINED SPACE ENTRY SOP-VL/IMS/VAB/SP44 Y**

*Confined Space Checks before job start up:*

1. *Before Entering in Confined Space ensure –*
2. *inside temperature should be less than 40 degree Celsius.*
3. *CO Level should be 0 ppm*
4. *Attendant must ensure proper illumination, if illumination not found ok, he must inform concern electrical person to provide hand lamp or halogen.*
5. *Take the work permit from production-in-charge, Safety, electrical, mechanical for entering Confined Space.*
6. *The workmen (Entrant) who is trained and certified by SBU Head and having valid confined space gate pass should perform the activity and he can be replaced(in emergency) only by certified entrant .*
7. *A standby (attendant) who is trained and certified by SBU Head and having valid confined space gate pass should perform the activity and he can be replaced(in emergency) only by certified attendant .*
8. *Standby person who shall be positioned outside the confined space , must have no other duties other than monitoring people and conditions inside the confined space and coordinating with rescue personnel (he must have contact number of rescue team members) if required.*
9. *Standby (Attendant) person has to log down the In/Out entry of all entrants and ensure that entrant should be come out after 30  minutes from confined space for normal jobs.*
10. *In some cases In/Out time may be relaxed /extended based on the risk involved in the particular confined space.*
11. *Check Internal atmosphere of the space for sufficient oxygen content (19.5% to 23.5 %) flammable gases and vapours, and the potential for toxic air contaminants by the use of multi gas detector, if required use pump with extension before entering. If there is any deviation, do not enter into confined space.*
12. *Check for the presence of Chemical asphyxiates such as Carbon monoxide (CO gas detector).It should be 0 PPM*
13. *Check inside temperature and it should be is in the tolerable range (25 deg C to 45 Deg C). If the temperature is not within limits then appropriate ventilation to be used to normalize the temp.*
14. *Check for suitability of equipment that is used at the confined space.*
15. *Check any dust due to which visibility is reduced or respiratory tract is irritated.*
16. *The sign-in and sign-out of all persons entering into confined Space should be recorded.*
17. *Use 24V DC supply illumination to avoid electrocution/electric shock.*
18. *Cutting or welding jobs inside the confined space should be carried out after checking for any explosive environment (LEL should be <10%) and by providing localized suction or heavy duty exhaust systems to prevent accumulation of gases inside the space.*
19. *Isolation of related equipment of respective confined space with personal LOTO lock to be Ensured.*

*Please note that this area is considered as Confined Space so needs to maintain the checklist of the activity. All In time and out time details of entrants, levels of gases to be logged in checklist (yellow copy) or in any alternate document and to be documented.*

***Role of Rescue Team***

***As the work is being carried out inside confined Space, in an emergency victim can be taken out by use of rescue apparatus such as stretcher. However attendant should call ambulance which is fully equipped. However rescue team members should take a charge of the situation.***

B. Take the Work permit from the concern Area Owner.(HOD Maintenance).

* 1. Cordon the Area
  2. Oil in the first tank to be drained by opening the dummy flange of the drainpipe. Keep suitable containers to collect this oil mixed water. Water may be drained through the bottom of the container to the servicing pit. The left over oil in the container to be return back to stores as waste oil.
  3. Allow the fresh water to go inside the tank no 1 so that level in the1th tank containing water increase leading to the pushing of oil traced lighter layer to move out through the drain pipe.
  4. Take out the oil traced water till complete oil is drain out.
  5. Take out the cover of the Concrete tank. Drain out the Water from the tank using vehicle washing tank pump and with portable pump.
  6. Drain out the water of the all 6 tank. Take out the mud. – Responsibility Civil.
  7. Carry out the internal inspection of the tank for concrete cracks. If noticed rectify the same. – Responsibility Civil
  8. Close the drain line flange. Checks the condition of the top lid of the tank.If requires replace the same or carry out the painting to avoid corrosion. Follow procedure WI/AMINT/91 for painting job.Lock cover plate to each other.
  9. Fill Up the tank with fresh water
  10. Carry out the structural stability check of the ramp structure.
  11. Follow work procedure WI/MAINT/94 for Fabrication erection jobs & repairs
  12. Check the condition of the ram & its surrounding area. Clean the same thoroughly to avoid the grass formation which can lead to slipping hazard.
  13. Carry out the inspection of center and side hand railing ensure the suitability of the same.
  14. Collect all the cotton wastes, cloths, hand gloves that have oil/grease traces in a separately identified bin. Hand over the oil/greased cloths, cotton wastes and hand gloves to be collected and inserinated.

**Work No 5 : Replacement of Tyre.**

* 1. Park the vehicle on the horizontal surface with stopper on front/rear wheel as per suitability.
  2. Ensure that hand brakes are being applied with vehicle in gear mode “OFF” condition and keys are being removed.
  3. Position the jack such that jack touches the main frame of the vehicle of that side of which tyre is to be replace. D. Lift the jack to require height.
  4. Put the Mechanical stopper below the vehicle to hold the vehicle in case of jack failure.
  5. Remove the nut of the wheel and take out the tyre.
  6. Align the tyre properly so that holes of tyre rim match the base bolt.
  7. Replace the tyre with new or repaired one.
  8. Tighten up the tyre nuts.
  9. Taken out the mechanical stopper and lower the jack.
  10. Release the hand brake and gear & Take the trail of the vehicle and handover the vehicle to the concern owner.

After every Activity should follow house keeping activity as per instruction WI/MAINT/91.

**Scrapping of vehicle to be carried out as per asset scrap procedure by taking necessary approvals and as per guidelines specified.**

**DO :**

* Ensure no oil/petrol/diesel leakages through the vehicle.
* Ensure that before carrying out any activity vehicle is being put “OFF” and necessary hand brake are being applied.
* Ensure the verification of the lifting tools & tackles & battery charger before use.
* Strictly follow the maintenance manual provided for vehicle while carrying out any maintenance activity.
* Keep the battery on rubber flap while charging the battery.
* Do not touch the open point of the battery while charging
* Use fully insulated tools while working on electrical items
* Only Authorized persons should operate the high Pressure Pump and wash the vehicles
* Hose to be rolled and kept in desired location after use  Proper Housekeeping to be done after washing is completed.
* Mud of vehicles which remains on the ramp to be washed after washing
* Wear Safety Google, gum boots & safety goggle while washing the vehicle
* Any vehicle being taken out of plant to be marched through DNG gate only if possible
* For movement through LC gate, concerned department to block the road fully to prevent other vehicles from entering the same road and send a communication regarding the same

**DO NOT :**

X Move on the edges of the ramp as one can slip and fall from ramp height.

X Go below the vehicle while changing the tyre without putting mechanical stopper.

X Use mobiles while driving the vehicle.

X Direct the jet of water towards any person

X Indulge in the Horse Play

X Leave the keys inside the vehicle, after parking the vehicle



**Amendement Record**

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| **Date** | **Manual Section Ref. & Para** | **Brief details of Revision** | **New Rev.** |
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| --- | --- | --- |
| **Prepared By:**  Area Engineer | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Mechanical Head |
| **Signature** | **Signature:** | **Signature:** |
| **Review Date: 12.12.22** | **Review Date: 12.12.22** | **Review Date: 12.12.22** |