

RISK ASSESSMENT

Pre-Start Hazard Assessment (PHA) – Prime Mover Operation

Form Reference:	ISO-BMS-RA-016
Plant/Vehicle/Machine Type:	Scania R540 / R620 6x4 Prime Mover
Project/Location:	

Purpose & Scope: This Pre-Start Hazard Assessment (PHA) identifies the tasks, hazards, and required control measures for the safe operation of this vehicle across Consolidated Group of Companies (CG/CTS/JG) sites, including Pilbara mining and civil construction environments. It must be read, understood, and signed by every operator prior to first use, and reviewed whenever conditions, plant, or the system of work change.

ALL OPERATORS MUST SIGN BELOW TO ACKNOWLEDGE THEY HAVE READ AND UNDERSTOOD THIS PHA, AT LEAST ONCE, PRIOR TO THE OPERATION OF THIS MACHINE.

Name	Date	Time	Signature

Approval & Sign-Off

Supervisor/s Responsible for this Document:	
Full Name:	
Location/Project ID:	
Date:	
Signature:	

Follow-Up Review Triggers

Follow-up trigger – review this PHA on change to: use of plant, system of work, plant environment, new information, or plant modification.	Y	N
Is the plant designed to perform the task?	☐	☐
Has the plant been modified from the original condition?	☐	☐

Follow-up trigger – review this PHA on change to: use of plant, system of work, plant environment, new information, or plant modification.	Y	N
Is the plant in good working condition and free of leaks, damage, mud and vegetation build-up?	☐	☐
All identified action items closed out/addressed (plant checks)?	☐	☐
Is the plant safe to operate? (on completion of PHA and any action closures)	☐	☐

Task, Hazard & Control Assessment

Task	Hazard	Initial Risk	Current Control Measures	Residual Risk	Responsible
PRE-START					
Operator competency & fitness for work	Unqualified, unlicensed, unfit, or fatigued operator	H17	- Operator holds current VOC (Verification of Competency) for this specific plant item and has completed site induction. - Fit for Work declaration completed; zero tolerance for alcohol and non-prescription drugs. - No operation while affected by fatigue, medication, drugs or alcohol - report to supervisor immediately if unfit.	L4	Operator
Pre-start inspection	Undetected plant defect leading to failure during operation	H17	- Complete documented pre-start/prestart book covering the items specific to this plant (see below), guards, isolators, e-stops, reversing alarm, beacon, fire extinguisher, first aid kit and spill kit. - Regular scheduled servicing/maintenance per manufacturer's schedule; defects tagged out and reported - do not operate a tagged/defective item. - Registration/inspection current where applicable.	M8	Operator
PLANT DESIGN COMPLIANCE					
Lighting for night/low-light operation	Collision or loss of visibility - OEM-fitted lighting on compact excavators is often limited to front working lights only	H14	- Confirm the fitted lighting package before any night or reduced-light operation; where the machine only has front working lights, additional self-contained lighting (head, reversing, rear, control/work area) must be fitted and confirmed serviceable before use in those conditions. - Do not operate in low light/night conditions until compliant lighting is fitted and tested.	M9	Operator / Management

Task	Hazard	Initial Risk	Current Control Measures	Residual Risk	Responsible
Beacon / strobe visibility	Struck-by injury due to the machine not being visible to other plant/vehicles on site	H14	- A minimum 55-watt amber rotating beacon or strobe fitted, visible up to 200m in all directions in normal daylight, positioned to maximise visibility while minimising damage risk (more than one beacon may be needed depending on machine profile). - Beacon confirmed operating at pre-start; machine not to be operated with a non-functional beacon.	M9	Operator / Management
CAB ACCESS & CONTROLS					
Accessing/exiting the cab	Fall from height given the prime mover's high cab step/ladder	H14	- Use correct designated grab handles and steps; maintain 3 points of contact when accessing or exiting. - Never jump down from the cab; ensure boots are fastened and free from mud/debris before climbing.	L4	Driver
Air brake system	Brake failure or reduced braking performance from air system fault, particularly relevant to combination mass	H14	- Air pressure build-up and warning systems checked at pre-start before moving off; brake test performed per pre-trip procedure. - Any air leak, warning light, or reduced brake performance reported immediately and the vehicle tagged out of service.	M9	Driver / Mechanic
COUPLING & COMBINATION					
Coupling/uncoupling the trailer combination	Crush injury coupling/uncoupling, or trailer runaway if not correctly secured	H17	- Trailer(s) parked on level ground with park brake applied and wheels chocked before uncoupling. - Fifth wheel/coupling and dolly drawbar connections (as applicable) visually confirmed locked, and air/electrical lines connected, before moving off; pre-trip coupling check completed every time. - No personnel between the prime mover and trailer during coupling manoeuvres. - Trailer-specific hazards (tipping mechanism, tanker surge, load restraint) are covered in the relevant trailer RA - refer to RA-21 (Semi Water Tanker) or RA-24 (Semi Tipper Truck & Trailer) as applicable to the combination being towed.	M8	Driver

Task	Hazard	Initial Risk	Current Control Measures	Residual Risk	Responsible
Combination mass and dimension compliance	Non-compliance with registered combination mass, dimension, or PBS (Performance-Based Standards) limits	H17	- Combination configuration confirmed against the prime mover's and trailer's registered/PBS approval before towing. - Load ticket/weighbridge check completed where required; combination mass kept within registered limits for the specific trailer(s) coupled.	M8	Driver
TRAVEL & ROAD TRAIN CONSIDERATIONS					
Travel on haul roads and public roads	Collision, jack-knife, or rollover given the combination's length and mass	H18	- Obey site speed limits, signage and give-way rules; IVMS/journey management followed where required by client (BHP/FMG). - Route and permit conditions checked before departure, including any pilot/escort requirements for oversize combinations. - Seatbelt worn at all times; no handheld mobile phone use while driving.	M9	Driver
Fatigue on extended or remote hauls	Driver fatigue leading to loss of control	H14	- Journey management plan completed for long-distance or remote transits; rest breaks taken in line with fatigue management plan/heavy vehicle standards. - Rotate drivers or stand down if signs of fatigue present; work diary maintained where required by Heavy Vehicle National Law.	L5	Driver
Reversing the combination	Struck-by or jack-knife injury reversing a prime mover/trailer combination	H17	- Spotter used for all reversing manoeuvres; reversing alarm and camera (where fitted) operational. - Reversing carried out slowly with awareness of the trailer's swing path, particularly with dollies or multi-trailer combinations.	M8	Driver
Wildlife/fauna strike	Collision with fauna on Pilbara access roads, particularly dawn/dusk	M8	- Reduced speed during low-light periods and in known fauna corridors. - Report fauna strikes to supervisor; do not swerve harshly - maintain control of the combination.	L4	Driver
BREAKDOWN & REFUELLING					
Roadside breakdown	Struck-by from passing traffic while stopped on the traffic side of the combination	H14	- Position the combination as far off the road as possible; hazard lights on. - Reflective vest worn; reflective triangles placed at	M9	Driver

Task	Hazard	Initial Risk	Current Control Measures	Residual Risk	Responsible
			correct distance front and rear of the combination. • Stay with the vehicle and contact supervisor for assistance.		
Refuelling	Fire or explosion from static discharge or ignition source at the fuel point	M6	• Remain with the vehicle while refuelling; no electronic equipment (including mobile phones) used during refuelling. • Discharge static electricity before touching the fuel pump/nozzle; only appropriate fuel used.	L1	Driver
MAINTENANCE & ISOLATION					
Maintenance and servicing	Injury during servicing, or unit returned to service with an unresolved defect	H14	• Vehicle isolated (keys removed/tagged), park brake applied and wheels chocked before any maintenance task begins. • Maintenance carried out by accredited personnel only, following the operator's/maintenance manual. • Engine, air brake system, coupling and running gear inspected per service schedule; defects tagged and reported immediately.	L4	Driver / Mechanical Team

Post-Task Activities

Post-Task Activities	Y	N
Ensure all tools are collected & returned to store/workshop.	☐	☐
Remove all waste materials from the area & place in the appropriate bins.	☐	☐
Report any damaged equipment.	☐	☐
Remove any barricades erected if no longer required.	☐	☐
Leave area clear of hazards.	☐	☐
Check area for hydrocarbon spillages.	☐	☐
Remove isolations and complete any permits/certificates if applicable.	☐	☐
Clean the cabin for the next person on shift to ensure a healthy work environment.	☐	☐

Additional Notes

Important: Every person on site must read this document and be familiarised with the underlying risks associated with operating this vehicle. It is the site supervisor's responsibility to check every team member has been briefed and has signed to acknowledge. Please add a note for any new risk identified during operation.

Risk Matrix

Likelihood \ Consequence	1 Insignificant No injury / near miss	2 Minor First aid / medical treatment	3 Significant LTI or restricted work duties	4 Major Fatality or serious permanent injury	5 Catastrophic Multiple fatalities – 50 or more health effects
Almost certain – Expected to happen	H11	H16	E20	E24	E25
Likely – Could happen frequently	M7	H12	H17	E22	E23
Possible – Could happen occasionally	L4	M8	H13	H18	E21
Unlikely – May occur sometime	L2	L5	M9	H14	E19
Rare – May only occur in exceptional circumstances	L1	L3	M6	H10	H15

Risk Rating – Actions Required After Ranking Risk

E STOP	H REVIEW	M PROCEED	L PROCEED
Eliminate or reduce the hazard to acceptable level (e.g. Medium or Low) in order to proceed	Controls to reduce hazard as far as reasonably practicable	With stated controls and supervision	And monitor for changes in conditions

Control the Risk – Hierarchy of Controls

Hierarchy of Controls	Examples of Controls
Elimination	Design change, change of construction methodology
Substitution	- Use safer substance/chemical - Environmental catchments/sedimentation pools
Isolation	- Guards on power tools; effective screens, barriers and edge protection - Enclose noisy machinery; environmental swales, booms or barriers, paint washout station
Engineering	- Earth leakage device (safety switch) on electrical sources - Use a machine to lift heavy objects; use scaffold rather than a ladder as a working platform
Administration	- Change work practices and safe work method procedures - Tagging and testing procedures or waste sorting
PPE	- Hard hats, glasses, hearing protection, hi-vis vests, safety boots/shoes (Note: PPE should be the last option to protect people)