

Technical test - Practical

Plant & Vehicle Marshaller – A73



Resources required – Communication

Equipment	<ul style="list-style-type: none"> • 3 x two-way radios, to include 1 x hands-free kit
Other resources	<ul style="list-style-type: none"> • Written verbal instructions able to be read by the candidate in a script format
Notes	<ul style="list-style-type: none"> • The script must contain the following information: <ul style="list-style-type: none"> ○ given call signs e.g. marshaller 1 and vehicle 1 ○ radio checks for transmission effectiveness ○ instructions to start operations ○ instructions to move the vehicle ○ instructions to turn left and turn right ○ instructions to reverse the vehicle ○ instructions to halt the vehicle ○ instructions to stop the vehicle in an emergency ○ end of operations

Resources required – Practical

Vehicle	<ul style="list-style-type: none"> • 1 x item of plant or a vehicle with an unladen or net weight of at least 7.5 tonnes (excluding forward tipping dumpers without a cab)
Area	<ul style="list-style-type: none"> • Level surface for travelling and manoeuvring • Sufficient area to accommodate a segregated working area for manoeuvring activities
Other equipment	<ul style="list-style-type: none"> • Equipment for segregating a working area e.g. barriers, cones, marker tape etc. • Equipment to facilitate the manoeuvring and reversing of the selected vehicles including through, into and from restricted areas • Appropriate high visibility clothing to identify both the candidate and others involved in the test
Notes	<ul style="list-style-type: none"> • The vehicle/plant selected for the test must be of a design where it is both physically large and which minimises available all-round visibility for the driver/operator, the machine must have forward facing and sideways views that are un-obscured, however the direct rear view / window must be restricted. This makes the test challenging for the candidate and an ideal type of machine for the test would be a large goods-type vehicle or dump truck, however here are some other examples of types of equipment that may be used (minimum 7.5 tonnes) - Telescopic handler, tractor unit, road sweepers, loading shovels and 360 excavators (upper structure must be locked). <i>This list is not exhaustive</i>

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Resources required – Practical (Continued)



<p>Notes (Cont'd)</p>	<ul style="list-style-type: none"> • The vehicle used for the test must be equipped with fit-for-purpose side mounted rear-view mirrors, and a clear forward view through cab-fitted glass • In addition to rear view mirrors, the vehicle should ideally be fitted with a reversing audible warning system. Rear-facing CCTV equipment must be disabled or the screen out of the view of the driver/operator • The vehicle must be driven by a competent and certificated operator • The operator's/driver's manual must be with the vehicle <hr/> <ul style="list-style-type: none"> • The total test area required for the test must be sufficient to allow a run of at least 7.5 times the vehicles length and width to allow manoeuvring for all activities <hr/> <ul style="list-style-type: none"> • A risk assessment and method statement detailing a safe system of work must be devised specific to the test area based on the test activities, and must identify safe zones for the candidate and tester • Information from the method statement must be communicated to all involved in the test prior to the test starting. However, information relating to the working area needed to be identified by the candidate on the test need not be disclosed to them • Prior to the start of the test, the movement area must be pre-segregated with appropriate barriers, with a suitable entry/exit gate or gates • The vehicle must be parked outside and away from the segregated working area at a distance not less than 15 metres travelling distance from the working area entry gate • The Tester cannot assume the role of vehicle driver/operator • For the test to be effective, the vehicle driver/operator must follow the exact instructions (verbal and signals) given by the candidate, and only make direction, speed or steering adjustments according to instructions given. • Once the test has commenced, all communication and instructions to the driver/operator must come from the candidate (except for emergency reasons) until completion of the test
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Activity instructions - Communication



<p>Hand signals</p>	<p>1. The candidate will demonstrate the following hand signals:</p> <ul style="list-style-type: none"> • Start operations • Move forwards • Move backwards • Turn right • Turn left • Distance (horizontal) approaching stopping point • Stop • Raise • Lower • Distance (vertical) • Emergency stop • End of operations
<p>Notes - Hand signals and radio use</p>	<p>2. The candidate can use a script that must include agreed signals for exercise 5a</p> <ul style="list-style-type: none"> • For the hand signals activity, the candidate must be positioned so that both the candidate and driver/operator are in full sight of each other <p>Note: <i>The Tester must also be in the vicinity to ensure that candidate and driver/operator are communicating effectively with each other</i></p> <ul style="list-style-type: none"> • Signals will conform to those listed in the HSE guidance document L64 - Safety signs and signals regulations 1995 (updated 06/16).
<p>Notes – Radio use</p>	<ul style="list-style-type: none"> • For the radio script exercises, the candidate must be located at least 25 metres from the driver/operator <p>Note: <i>The Tester must also be in the vicinity to ensure that candidate and driver/operator are communicating effectively with each other</i></p> <ul style="list-style-type: none"> • For radio use, there must be a transmission break in between each instruction. On receiving each instruction, the driver/operator must confirm receipt of transmission to the candidate and inform them to proceed to relay the next instruction • For radio use, radio protocol requirements will need to be followed and include: <ul style="list-style-type: none"> ○ The call signs preceding each instruction ○ The end of transmission of each sent instruction by stating the word ‘over’.

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Activity instructions - Manoeuvring



<p>Sequence</p>	<ul style="list-style-type: none"> • Activity 1 must be undertaken at the start of the test • Activities 5, 6 and 7 need to be undertaken sequentially as per the plan • Activities 5A, 6 and 7 need to be undertaken sequentially as per the plan. • Activity 8 can be integrated within activity 6 • Activities 11 must be undertaken at the end of the test <p>The test must be completed within a given time. The specifications' section gives further information</p>
<p>Preparing for vehicle movements</p>	<ol style="list-style-type: none"> 1. Assess the given vehicle movement area to ensure suitability of operations 2. Identify the vehicle for movement, vehicle to be located a minimum of 15m from the area entry gate prior to the start of the test 3. Convey initial movement information at the start of operations and for each activity to the vehicle driver/operator 4. Using radios guide the vehicle from the Gated Holding area into the movement area, to the vehicle start point as per Diagram A, for the reversing exercise.
<p>Guiding vehicle movements</p>	<ol style="list-style-type: none"> 5. Using Hand signals from the start position adjacent to the first marker, guide the vehicle in a reverse direction through pre-positioned markers as per diagram A 5a. Using Radios from the start position adjacent to the first marker, guide the vehicle in a reverse direction through pre-positioned markers as per diagram A 6. Reverse the vehicle into an area (working/holding area) as per specified restrictions 7. Guide the vehicle from the working/holding area, through the markers following the original route back to the start point 8. Reverse the vehicle up to a structure (within the given tolerance) 9. Stop all vehicle movements when directed to do so, once via hand signals and once via radio communication 10. Adjust the exclusion zone to accommodate each size of vehicle (if needed)
<p>Completion of operations</p>	<ol style="list-style-type: none"> 11. On completion of the reversing exercises, guide the vehicle out of the movement area back to the Gated Holding Area
<p>Notes</p>	<ul style="list-style-type: none"> • For activity 1, the candidate will verbally relay factors relating to the working area to the driver/operator • For activity 3, the candidate must introduce themselves to the driver/operator and: <ul style="list-style-type: none"> ○ inform them that they must follow all instructions (verbal and signals) ○ inform them that they must stop if they lose sight of the marshaller ○ give them the emergency stopping procedure and ○ give them the code of signals to be used • All movements must be undertaken using hand signals except for item 4 and 5a where radio communication is to be used

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Activity instructions – Manoeuvring (*Continued*)



<p>Notes (Continued)</p>	<ul style="list-style-type: none"> On activity 6, appropriate shunting of the vehicle is allowed depending on the size of manoeuvring area and turning circle (Hand signals) For activity 5, the Marshaller must stay on one side of the vehicle and cannot transgress beyond the fixed barriers (between cones 1 & 2 and 4 & 5), (zones 1 & 2 as per diagram A) the candidate can choose which side for the first run but must alternate for each activity (Radio use) For activity 5a, the Marshaller must stay on one side of the vehicle and cannot transgress beyond the fixed barriers (between cones 1 & 2 and 4 & 5), (zones 1 & 2 as per diagram B) the candidate can choose which side for the first run but must alternate for each activity
	<ul style="list-style-type: none"> For activity 9, the Tester will inform the candidate when all vehicle movements must stop immediately, this must be conducted on at least two separate occasions on different activities, one of which must be an emergency stop.

Activity measurements

<p>Width restrictions (working area entry/exit gate and working/holding area)</p>	<ul style="list-style-type: none"> Maximum of 300mm clearance
<p>Reversing to a structure</p>	<ul style="list-style-type: none"> Within 0.5m of the rearmost part of the vehicle
<p>Distance from markers (during reversing activities)</p>	<ul style="list-style-type: none"> Maximum of 0.5 of a metre from the vehicle (the leading wheel must not be more than this distance when passing each marker 1 -5)
<p>Test timings</p>	<ul style="list-style-type: none"> Activity Communication = 20 minutes Activity Manoeuvring = 30 minutes The test must be completed within a total accumulated time of 50 minutes

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Basic details



Test ref:	Candidate name:
Tester name:	Candidate ref:
Tester ref:	Date of test:
Make and model:	Start time of test:
	Duration:

Mandatory	Correctly carried out during the test?	Y/N
Communication <i>(hand signals)</i>	1 Accurate hand signals demonstrated correctly	
	2 Hand signals given clear and concise	
Working area preparation	3 Working area assessed with all factors verbally relayed to Operator/Driver	
	4 Areas of possible entrapment/crushing identified	
	5 Ensured suitability of access and egress points of the working area	
	6 Emergency marshaller egress routes for each manoeuvre identified	
Vehicle preparation	7 Signal codes agreed with vehicle operator	
	8 Relayed known hazards on travel route and in working area (relative to the vehicle type) to vehicle operator	
	9 All other movement information including emergency procedures relayed in a clear manner to vehicle operator	
Manoeuvring - guiding	10 Exclusion zone maintained when vehicle entering and exiting working area	
	11 Vehicle guided from start position into relevant position for reversing activities	
	12 Vehicle guided as per manoeuvring activities into relevant positions and up to a structure according to given criteria	
	13 Restrictions cleared by vehicle	
	14 Stop and emergency stop signals provided to vehicle operator in a suitable time	
	15 Candidate positioning in effective view of operator	
	16 Candidate positioning clear of the moving path of vehicle	
	17 Candidate positioning clear of all entrapment areas	
	18 Vehicle stopped when candidate re-positions themselves	
Completion of operations	19 Clear instructions (radio and hand signals) given to vehicle operator	
	20 Working zone area segregation established following vehicle's exit	
Other	21 Vehicle parked in given location	
	22 Legislation, manufacturers' and health and safety requirements complied with	
	23 Test completed within the given overall time	

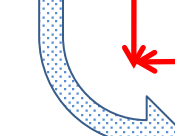
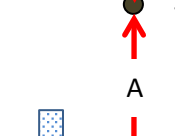
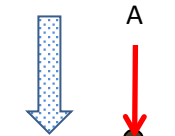
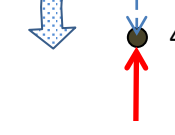
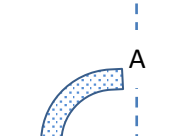
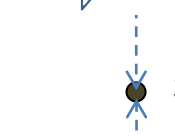
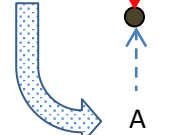
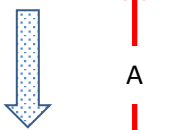
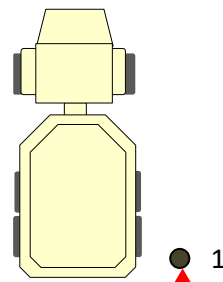
All of these items must be awarded Achieved / Not achieved

Faults	Candidate incorrectly carried out the following:	Fault	Mark	Penalty
Communication activity <i>(radios)</i>	1 Radio and transmission checks		1	
	2 Radio protocol e.g. call signs		2	
	3 Clear breaks between each transmission		1	
	4 Each verbal instruction clear and concise		1	
Vehicle preparation	5 Ensured the vehicle is configured for manoeuvring purposes		2	
	6 Candidate did not follow the agreed signal code		2	
Manoeuvring - guiding	7 Constantly checked for personal trip hazards during manoeuvring activities		1	
	8 Ensured other vehicles and personnel kept out of working area		2	
	9 Exclusion zone readjusted to accommodate vehicle movements and/or size		2	
	10 Reversed up to structure within given tolerance		3	
	11 Maximum distance between markers and vehicle not exceeded during reversing activities		3	
	12 Excessive and/or unnecessary shunting/manoeuvring		2	
	13 Candidate staying on the designated side for each activity		2	
Not exceeded eight penalties		Total penalties		
		Achieved / Not achieved <input type="checkbox"/>		

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DIAGRAM A (to be used for activity 5 & 5a)

Gated holding area
(This can be anywhere within the working area - 15 metre run from the gate)



Vehicle start point:
Rear of vehicle to be alongside marker 1 and maximum of 0.5 metre distance between vehicle side and marker

Distance A (distance between markers)
= 1.5 x vehicle's overall length
(small adjustments may be made to accommodate size/turning circle of vehicle)

● = distance markers
(Red must be physical barriers)

Distance B (entry point to working/holding area)
= 1 x vehicle's overall length

○ = working/holding markers

