

TRACTOR DRIVING, MECHANICAL, KNOWLEDGE, CRITIQUE SHEET – 1 R17
SAN ANTONIO JAM TRACTOR RESTORATION SHOW

Entry ID _____ Class # _____

TRACTOR _____ YEAR MODEL _____

Evaluation: E = Excellent, G = Good, F = Fair, CF _____ NA = Not Applicable

Note: Found on Worksheets compiled by Team 3
 1. Pre-check, Unloading, Safety Procedures & Safety Equipment
 2. Fluid Levels & Tire inflation pressures

Tractor Driving (6 Points (added to Mechanical below))

	Eval	Comments
Starting in safe manner Operator should demonstrate familiarity with controls		
Good Driving Skills - Shifting gears etc.		
Clutch – Includes smooth clutch action and clutch free travel		
Brakes – Both brakes R & L will be checked and desirability of locking brakes together will be evaluated.		
Steering- Normal steering and wheel alignment. Wheel tracking will be observed. Slack in steering gears including tie rods will be observed		
Electrical – Lights, Charging System – Generator - Regulator		
Normal engine sound		
Normal governor action Good throttle movement when accelerating and moving to idle.		
Normal exhaust emissions. Original mufflers and exhaust systems.		
Lift System Weight will be put on lift arms to see how they function		
PTO Operation Proper shield should be in place		

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Mechanical 34 Pts (CF) Bonus Point may be awarded		
Mechanical will be evaluated using: <ul style="list-style-type: none"> • Observations - Driving • Inspecting Documentation, Reports and Pictures – see description below • Evidence of using precision tools – Micrometers, dial gauges, torque wrenches, small hole and telescoping gauges. • Asking exhibitor/s questions. Responses can be used to evaluate Knowledge, record on Check Sheet 1 and share with Team 2 • Evidence that all threads were chased and proper torques applied. • No Sandblasting of Mechanical Parts. Any evidence of sand will result in points being deducted. • Mechanical work done by others must be identified as RC in Expense Report 		
Engine Components 8 Pts	Eval	Comments
Crank, Pistons, Rods & Cylinders <ul style="list-style-type: none"> • Measuring crank and rod journals • Measuring Cylinders – conditioning cylinder walls • Measuring Piston to Cylinder fit • Checking Piston rings – ring end gap and ring grooves. • Torque of rod bolts • Engine timing 		
Cooling System <ul style="list-style-type: none"> • Fans and drives inc belts • Hoses and fittings • Radiators – drain plugs 		
Head & Valve Train <ul style="list-style-type: none"> • Inspection of head for cracks – head flatness, head bolt torques. • Valve stems & faces including face and seat angles and valve guide measurements – Stem to valve guide fit. • Measuring valve guides • Rocker arm pads • Valve springs – height at prescribed lb/ft – straightness • Push rods • Tappet clearance 		
Lubrication <ul style="list-style-type: none"> • Oil galleries and lines • Oil pumps 		
Fuel System <ul style="list-style-type: none"> • Carburetor Systems including fuel pumps & fuel tanks • Diesel Systems – pumps, lines, filters and injectors 		
Other Components <ul style="list-style-type: none"> • Turbo • Exhaust • Governor 		

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Components	Eval	Comments
The following are also evaluated in the Driving Exercise		
Electrical (4 Pts) <ul style="list-style-type: none"> • Regulators • Generators/Alternators • Ignition- magnetos /distributors (points condenser) Coil, plugs and plug gap • Instrument panel – gauges • Battery • Wiring Harness • Lights 		
Transmission (4 Pts) <ul style="list-style-type: none"> • Bearings • Gear backlash • Gear Run out • Filters • Gaskets 		
Clutch (4 Pts) <ul style="list-style-type: none"> • Clutch Free Travel • Clutch throw out bearing • Pilot Bearing • Clutch Disc 		
Final Drive (4 Pts) <ul style="list-style-type: none"> • Bearings • Gears • Gaskets 		
PTO/ Lift – Hydraulics (4 Pts) <ul style="list-style-type: none"> • Pump – bearings & gears • Lines • Valves & controls • Lift capacity • PTO shaft – category/splines • Three point hitch category 		
Steering (3 Pts) <ul style="list-style-type: none"> • Gear Box • Gear adjustment – slack in steering wheel and front wheels. • Tie Rods • Toe in and camber • Tracking – Both front and rear wheels 		
Brakes (3 Pts) <ul style="list-style-type: none"> • Adjustment – brakes adjusted so they can be locked together and equal braking on both rear wheels • Pads and shoes • Brake drum • Seals 		