

# FALCON ASPHALT REPAIR EQUIPMENT

## Technical Specifications For

### Three (3) Ton Trailer Mounted Portable Hot Box

#### 1. General

Item	Item Description	Compliance
A.	These specifications describe an asphalt hot box capable of: <ul style="list-style-type: none"> <li>• Heating and re-heating cold patch asphalt</li> <li>• Transporting hot mix, keeping it hot all day and holding hot mix asphalt overnight</li> </ul>	Yes__ No__
B.	The asphalt hot box must be an air jacketed hopper with no moving parts	Yes__ No__
C.	Manufacturer or manufacturer's representative must provide a working demonstration of manufacturer's current equipment.	Yes__ No__
D.	Capacity: 3 Ton Trailer	Yes__ No__

#### 2. Local Service Provider

Item	Item Description	Compliance
	Bidder must include the name of the local service provider responsible for parts and service Service Provider Name _____ Contact Name _____ Phone Number _____ Mileage from servicing dealer to end customer _____	Yes__ No__

#### 3. Hopper Construction

Item	Item Description	Compliance
A.	<b>WALLS</b> <ul style="list-style-type: none"> <li>• Hopper is of triple wall construction and has three parallel walls (inner, middle and outer)</li> <li>• Hopper floor and all four hopper walls are heated               <ul style="list-style-type: none"> <li>a) Hopper is heated by an air-jacket below the hopper floor and between the inner and middle hopper walls</li> </ul> </li> <li>• All walls must be of one-piece, seamless steel construction</li> <li>• All front and side hopper walls are parallel and angled (inner, middle and outer)</li> <li>• The tops of all three steel layers of the front and rear hopper walls angled to create a 2" slope</li> <li>• Complete area between middle and outer walls is filled with 8 lb density, 2" mineral wool insulation</li> <li>• Top of hopper walls secured to each other with 10-gauge steel capping channel and side hopper walls secured to each other with 10-gauge steel corner molding, stopping hopper from losing its shape over time</li> <li>• Zip screws may not be used in the construction of the hopper</li> </ul>	Yes__ No__
B.	<b>BURNER BOX IS:</b> <ul style="list-style-type: none"> <li>• Located below the hopper floor</li> <li>• Constructed of 15.3# channel iron with dimensions of 10" high, 51" long and 34" wide</li> <li>• Insulated with 1" ceramic blanket on all four walls and the floor</li> </ul>	Yes__ No__
C.	<b>HOPPER FLOOR:</b> <ul style="list-style-type: none"> <li>• Constructed of a single piece of ¼" plate steel that is 34" wide and 51" long</li> </ul>	Yes__ No__

	<ul style="list-style-type: none"> <li>• Extends from the base of the front hopper wall and extends beyond the back wall by a minimum of 12"</li> <li>• The area beyond the rear hopper wall creates a worktable that is heated from the diesel burner box</li> <li>• The hopper floor is approximately 28" off the ground</li> <li>• The hopper floor is free of any steel wall or divider that partitions the hopper into compartments</li> </ul>	
D.	<b>HOPPER HEAT DUCT</b> <ul style="list-style-type: none"> <li>• One diamond shaped 10-gauge steel heat duct is welded from the front-hopper wall to the back-hopper wall</li> <li>• Heat duct is continuously welded</li> <li>• Heat duct is a minimum of 12" above the hopper floor and does not partition the hopper</li> </ul>	Yes__ No__
E.	<b>DIMENSIONS</b> <ul style="list-style-type: none"> <li>• Overall Hopper height not to exceed 74" from the ground</li> <li>• Asphalt hopper width not to exceed 83" and width of outside fender to fender shall not exceed 73"</li> </ul>	Yes__ No__
F.	<b>TOP LOADING DOORS</b> <ul style="list-style-type: none"> <li>• Steel loading doors are framed on square tubing with angle iron reinforced cross members</li> <li>• The area inside loading doors is completely filled with insulation</li> <li>• Doors are hinged to the hopper corners with bolt-on, 1" diameter 2-bolt pillow block bearings</li> <li>• Doors open with manually retractable handle</li> <li>• Doors are secured with positive safety locks in the open position and while in tow to prevent injury</li> </ul>	Yes__ No__
G.	<b>REAR MATERIAL UNLOADING DOOR</b> <ul style="list-style-type: none"> <li>• Rear hopper wall includes a single, fully insulated, guillotine-style, unloading door</li> <li>• Unloading door opening dimensions must be a minimum of 16" high and 33" wide</li> <li>• Door is equipped with replaceable CAM follower bearings</li> <li>• Unloading door handle shall be located along the curbside sidewall of the hopper keeping operator out of traffic and enabling full functionality while standing three feet from the closest point of the door opening</li> <li>• Curbside placement of door handle also keeps operator away from free falling 300°F asphalt</li> <li>• The door must be removable upon unbolting the CAM followers. No additional tools or effort are required.</li> </ul>	Yes__ No__

#### 4. Trailer Construction

Item	Item Description	Compliance
A.	<b>TRAILER TYPE</b> <ul style="list-style-type: none"> <li>• Trailer frame must be constructed of 2" x 6" x 1/4" structural rectangular tubing</li> <li>• Trailer must include a minimum of three cross members and a center support beam, each constructed of 2" x 6" x 1/4" structural rectangular steel tubing</li> </ul>	Yes__ No__
B.	<b>TRAILER CONSTRUCTION</b> <ul style="list-style-type: none"> <li>• Trailer must comply with all state and federal DOT / FMCSA requirements</li> <li>• Hopper must be integrated into the trailer frame and not bolted into it</li> <li>• All welds on frame must be continuous</li> <li>• Boxed in and enclosed gussets continuously welded to the top, side and bottom of the frame at the two-front bends. Gussets continuously welded to the front where the side rails connect to the hitch post</li> <li>• Bottom of frame must be a minimum 18" from the ground</li> </ul>	Yes__ No__

	<ul style="list-style-type: none"> <li>Fenders are bolted to the frame enables easy replacement should the fender become damaged.</li> <li>Fenders are fabricated of 12-gauge steel with a 12-gauge backing plate</li> <li>Trailer includes an 8,000 lb. bolt-on drop-leg parking jack</li> <li>Two safety chains with Grade 70, DOT approved, transport chain and a clevis hook with a safety clip</li> <li>Circuit breakers in junction box to protect the tow vehicle from the 12-volt trailer wiring and vice versa</li> <li>A non-slip hopper access platform, constructed of diamond tread plate steel, is welded to the frame near the front hopper wall allowing the operator to stand fully upright to view the entire hopper contents</li> </ul>	
C.	<b>TRAILER AXLES</b> <ul style="list-style-type: none"> <li>Equipped with two 7,000 lb axles with slipper leaf spring suspension and GVWR must be a minimum of 14,000 lb</li> </ul>	Yes__ No__
D.	<b>TIRES &amp; BRAKES</b> <ul style="list-style-type: none"> <li>9 x 16" Load Range "F" tires on 8-bolt solid steel wheels</li> <li>Electric Brakes on all wheels with safety breakaway</li> </ul>	Yes__ No__
E.	<b>TRAILER PINTLE EYE</b> <ul style="list-style-type: none"> <li>Trailer must attach to towing vehicle using a minimum 2.5" I.D. lunette pintle eye hitch</li> <li>Pintle eye hitch to be adjustable in height from 18" to 32"</li> </ul>	Yes__ No__
F.	<b>TRAILER LIGHTING</b> <ul style="list-style-type: none"> <li>FMCSA compliant lighting to include four 4" round red stop/tail/turn lights mounted on rear of hopper. Four marker lights mounted on corners of hopper and one ID bar mounted on rear of hopper</li> <li>Two stop/tail/turn lights mounted in a common fixture on each side of the rear hopper wall</li> </ul>	Yes__ No__
G.	<b>TRAILER WIRING</b> <ul style="list-style-type: none"> <li>Trailer plug-in connector to be 7-pin flat RV, 7-pin round or 6-pin round</li> <li>All wires shall be THHN, stranded, copper, and color coded and all wiring and enclosures shall be NEMA-3 rated</li> <li>Wiring connections shall be soldered, sealed in shrink-wrap, covered with high temperature corrugated loom and protected by steel conduit</li> <li>All wiring is external to the hopper walls</li> </ul>	Yes__ No__

## 5. Heat System

Item	Item Description	Compliance
A.	<b>BECKETT DIESEL BURNER</b> <ul style="list-style-type: none"> <li>Hopper heated by one 105,000 BTU maximum RW Beckett diesel burner</li> <li>Diesel burner fuel solenoid powered by a 12-volt system</li> <li>Burner includes a cad cell (eye) to shut down the flow of fuel if the burner flame is not present</li> <li>A pressurized pump controls the flow of fuel to the diesel burner</li> <li>Diesel burner spark ignition system is powered by a 12-volt battery</li> <li>Burner has automatic recycle on spark system and automatic shut down safety system</li> <li>Burner has inspection guard that is removable without the use of tools, while standing on the ground</li> <li>Nozzle shall be .75 GPH</li> <li>Diesel burner is engineered to continuously operate while the equipment is in tow and while the hopper is raised</li> </ul>	Yes__ No__

B.	<p><b>BURNER COMBUSTION CHAMBER</b></p> <ul style="list-style-type: none"> <li>Constructed of a one-piece, seamless, vacuum formed ceramic fiber that is 1" thick with an insulation rating for temperatures in excess of 2,000 degrees Fahrenheit causing a complete blending of fuel and air.</li> </ul>	Yes__ No__
C.	<p><b>BATTERY</b></p> <ul style="list-style-type: none"> <li>Two 550 CCA 12-volt deep cell batteries are mounted in battery boxes on the trailer</li> </ul>	Yes__ No__
D.	<p><b>BATTERY CHARGER</b></p> <ul style="list-style-type: none"> <li>A 12-volt marine grade battery charger is mounted on the trailer frame</li> <li>The battery charger is hard wired to the unit's battery</li> </ul>	Yes__ No__
E.	<p><b>DIESEL EXHAUST</b></p> <ul style="list-style-type: none"> <li>All exhaust produced by the diesel burner vents through a single chimney on the top of the front hopper wall</li> </ul>	Yes__ No__
F.	<p><b>DIESEL FUEL SYSTEM</b></p> <ul style="list-style-type: none"> <li>Trailer has an in-line quick disconnect diesel fuel filter with a water separator, preventing burner failure</li> <li>Hopper Diesel Burner Fuel <ul style="list-style-type: none"> <li>a) Diesel fuel tank has a capacity enough for holding hot mix and heating cold mix for three 8-hour shifts</li> </ul> </li> <li>Fuel tank neck is welded into the fuel tank</li> <li>Fuel tank includes lockable fuel cap</li> </ul>	Yes__ No__
G.	<p><b>VOLTAGE INDICATOR AND PROTECTION SYSTEM</b></p> <ul style="list-style-type: none"> <li>Heating system must include a voltage indicator and protector controller to automatically prevent burner from operating below burner manufacturer's required voltage</li> </ul>	Yes__ No__
H.	<p><b>CONTROLS</b></p> <ul style="list-style-type: none"> <li>Falcon <b>Smart Control</b> digital temperature controller mounted in a NEMA-3 rated lockable electrical enclosure</li> <li>5" full color, touch screen monitor that includes <ul style="list-style-type: none"> <li>VIP (see item G.)</li> <li>7-day timer</li> <li>Fuel level gauge</li> <li>Hour meter</li> <li>Voltmeter</li> <li>Temperature gauge</li> </ul> </li> <li>Four (4) virtual switched 12v outputs</li> <li>Burner reset function</li> <li>Burner fault detection system</li> <li>Machine diagnostics</li> <li>Password protected temperature settings</li> <li>Temperature settings adjustable up to 300 degrees Fahrenheit</li> <li>Individual settings for use with hot mix or cold mix</li> <li>Burner is designed to stop running when the temperature setting on <b>Smart Control</b> monitor is reached</li> <li><b>Smart Control</b> will re-ignite the burner when the hopper temperature falls 10 degrees below the temperature set by the operator on the <b>Smart Control</b> monitor</li> </ul>	Yes__ No__

**6. Dump Box**

Item	Item Description	Compliance
A.	Shall be capable of tilting the hopper by means of two 3" bore 30" tie-rod style hydraulic cylinders <ul style="list-style-type: none"> <li>Each hydraulic cylinder acts as a safety back up for the other</li> </ul>	Yes__ No__
B.	Power source for cylinders controlling the movement of the hopper is a 12-volt self-contained electric over hydraulic pump	Yes__ No__
C.	12-volt pump is stored in a lockable toolbox mounted on the front of the trailer frame	Yes__ No__
D.	Dump box hinge system (on each side of the hopper): <ul style="list-style-type: none"> <li>Two 4" x 2" hot rolled steel pivot bosses</li> <li>1.75" diameter 4140 hardened TGP (Turn, Ground, Polished) steel pivot shaft with grease grooves</li> <li>One grease able zerk</li> </ul>	Yes__ No__
E.	Rear dump box pivot points are protected by hinged steel guards <ul style="list-style-type: none"> <li>Prevents asphalt from building up on the dump box hinge system</li> </ul>	Yes__ No__
F.	Trailer frame and burner box shall have 45-degree angled steel guides (two sets on each side), that provide a cradle for the hopper in a lowered position	Yes__ No__
G.	Safety rod to secure hopper in raised position is incorporated into the trailer	Yes__ No__
H.	Hopper diesel fuel tank bolts to 3 / 8" steel mounting brackets that are welded to the street side hopper wall	Yes__ No__
I.	Fuel tank moves up and down when the hopper is raised and lowered <ul style="list-style-type: none"> <li>Prevents diesel fuel lines from getting pinched as the hopper dump box moves up and down</li> </ul>	Yes__ No__

## 7. Paint

Item	Item Description	Compliance
A.	Manufacturers standard paint color	Yes__ No__
B.	Two coats of epoxy primer and two coats of urethane finish are applied to all parts and entire unit	Yes__ No__
C.	Entire unit, including all bolt-on parts, are blasted prior to painting	Yes__ No__
D.	All accessory bolt-on parts are painted prior to assembly to chassis	Yes__ No__
E.	Non-steel parts are not painted. These components/parts are installed after the paint process is complete	Yes__ No__

## 8. Warranty and Delivery

Item	Item Description	Compliance
A.	Two-year warranty (Pass through warranties will not be accepted)	Yes__ No__
B.	Lifetime Frame Warranty	Yes__ No__
C.	Guaranteed five-year maintenance free combustion chamber	Yes__ No__
D.	Four-hour safety and operation instruction by a factory-trained technician required upon units delivery	Yes__ No__

E.	One Operator / Parts / Service Manual is included upon delivery and available on manufacturers website	Yes__ No__