

FAIRBANKS-MORSE

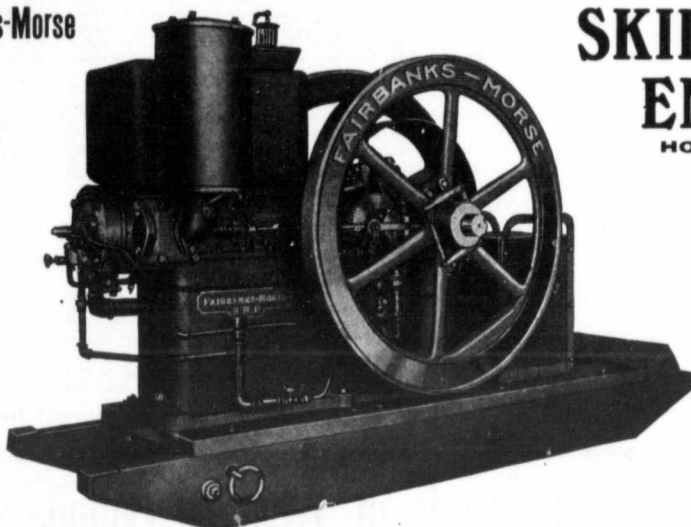
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SASKATOON

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5. Yes, if it carried of sufficient weight to gather momentum from the surplus energy.

W. K. I have a 14 h. p. gasoline engine that always blows the packing out of the cylinder head. It has 6 bolts in head and I prepare packing as well as I can and soak in linseed oil and draw nuts up occasionally. I have tried both common and wire woven packing. A friend told me there is a way of rusting on a packing, is that true? Will be obliged for any information you can give me. The Canadian Thresherman is a great help to me. I have both advanced and retarded spark, but no relief.

A. Cut a gasket to fit from a common thin sheet of asbestos. Then soak it well in a salamoniac solution, in proportion of one pound to the gallon of water. Scrape bright both faces of the cylinder and head, and put in the packing, draw up tight and let stand 48 hours, then run the engine for five or ten minutes without any water and draw nuts tight when hot and let stand another day or two. This oftentimes makes an excellent rust joint.

H. E. D. Does it hurt gasoline engines to pull them to their full capacity and to what extent, if any?

2. What is the horse power of an engine with 5½ in. bore, 8 in.

stroke and good compression running at 450 r.p.m. and 500 r.p.m.?

3. Does a hopper jacket engine use more or less gasoline than a tank cooler engine?

A. An engine pulling to its utmost capacity continually, has a much greater strain on it than one that pulls its load easily and with some reserve power. Consequently it would wear out sooner than one working under a moderate load.

2. Approximately 7 h. p., at 450 r.p.m.; at 500 r.p.m. 7½ h. p.

3. No reason why a hopper jacket engine should use more gasoline than a tank cooler engine as far as the cooling apparatus affects the fuel consumption. Other things being equal the operator ought to be able to develop the same power on either engine with a like quantity of gasoline.

H. S. What size of bore would be needed in this engine to make it a 16 b.h.p. Stroke 14 in., speed 350 r.p.m.?

2. How large must port be of intake and exhaust valves?

3. How much compression space must be allowed to work on a low compression basis?

4. How heavy and high must fly wheels be?

5. How much lubricating oil does cylinder of an engine need, how many drops a minute does a large cylinder need more than a small one, how many drops to engine with bore 12 in., stroke 20 in.?

6. Will a 10 b.h.p. gas engine pull as much as a 10 h. p. steam engine?

7. Why are mica washers used on an igniter, would not iron do?

A. 7½ inches.

2. Intake valve diameter 2.7 in. Exhaust valve diameter 3 in.

3. 4½ in. if no valve pockets to consider.

4. 700 to 800 lbs. each, for single cylinder engine.

5. It depends on the kind of oil, the condition of the cylinder, heat retained, and a great deal on the operator. From 5 to 20 drops per minute ought to lubricate the average size piston readily.

6. Yes as much as a 10 b.h.p. steam engine at a given steam pressure.

7. Mica is a non-conductor of electricity and therefore an insulator. Iron is a conductor and therefore will not serve the purpose.

A. V. P. The water jacket on my cylinder looks rusty and I have tried several things but all fail to take the rust off. Would like to know what I can do for it.

A. No doubt the deposit in your engine water jacket is partly lime. The hot oil process has proven very effective in some instances and may be used where there is objection to the use of the acid process. It is used as follows: Draw water from cylinder, plug lower ports and fill

with mineral lubricating oil, then run the engine till the oil in the jacket gets boiling hot, let stand over night, heat again to boiling point next morning by running the engine then drain off the hot oil, put in water and run the engine for several hours till the engine is gradually cooled off, then stop engine and draw off all sediment and flush out clean with water.

W. H. R. What would be the b.h.p. of a four cycle 7 x 7-inch two cylinder opposed gas engine running at 450 r.p.m., also at 900 r.p.m.?

2. What h. p. would the same engine develop with a 10-inch bore and stroke?

3. Would an engine be suitable for heavy farm tractor work running at a speed of 900 r.p.m., would not such a speed soon wear the engine out?

4. Would a 20 h. p. automobile style of boiler furnish steam for an ordinary 15 h. p. stationary steam engine with an 8-inch bore and 10-inch stroke, speed 200 r.p.m.?

5. If the drive wheels of a tractor were increased in size from four feet in diameter to eight feet in diameter and geared from the rim of the wheel would this give the tractor any more power or the engine any

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