

CYCLE WORLD
IMPRESSION

BN HODAKA

An \$800 Package for Super-Specialized Desert Racing

FROM STREET to trail to competition is the usual course newcomers take in the sport of motorcycleing. Whether it's trials, motocross or desert racing, the first competition category would-be racers consider is the 100-cc class. In this class of desert racing, one of the most competitive bikes is the BN Supply converted Hodaka Ace 100. Successful competition by the BN Hodaka prompted assembly of a race kit to be sold separately for any Hodaka owner to convert to BN specifications.

The race kit, comprised of components for engine and frame modifications, transforms the previously mild Hodaka Ace 100 into a super high performance competitor. This machine is not for the novice on his initial venture into racing. The BN conversion's peaky power delivery makes this a motorcycle for the rider who has gained some measure of experience with a lesser mount.

Desert racing enthusiasts like to blast

across wastelands flat-out, relying on a light front end to ease the machine over the bumps, rocks, dunes, fallen cacti and other machines dropped by the wayside. The BN front fork conversion is ideally suited to this type of competition.

The BN Hodaka engine is a 100-cc piston ported two-stroke Single. Bore and stroke dimensions are square at 50 mm. BN Supply claims 15 bhp at 9000 rpm, at the rear wheel after full conversion with all the special engine high performance components installed. The BN Hodaka **CYCLE WORLD** tested is equipped with a high compression head and a cylinder barrel that has undergone extensive reworking of the ports. Inlet induction is controlled by a reed valve mounted between the carburetor and the cylinder barrel. On the up stroke of the piston, the reed valve is forced open by the incoming fuel/air charge. As the piston reaches tdc and starts its downward stroke, the increase in pressure of the charge closes the reed valve. This



prevents the captive fuel/air mixture from escaping through the carburetor before the piston can close the inlet port. In theory, this inlet valve system permits a greater volume of combustible mixture to enter and remain in the engine, but the claimed boost in power from the larger amount of fuel and air is partially offset by the restriction to flow caused by the reed valve's presence in the inlet tract. A 32-mm Amal concentric carburetor is fitted as part of the race kit.

Power is transmitted by straight-cut primary gears through a multi-plate clutch to a five-speed gearbox. Gear ratios are well spaced so power does not dwindle between changes, provided maximum engine rpm are achieved before the next gear is engaged.

A high noise level tuned exhaust is mounted on the right-hand side of the machine. This is painted black for better heat dissipation, but the small heat guard does not prevent the rider's right leg from aiding the transfer of heat

away from the exhaust system.

The frame is a standard Hodaka item. Two front downtubes extend from the steering head underneath the engine, and upward behind the gearbox to the underside of the seat. A single top tube extends rearward from the steering head to a loop structure that follows the underside of the seat and joins together the top tube and the two aforementioned downtubes. Girling suspension units support the rear wheel and swinging arm. This swinging arm is a non-standard component. For desert racing, a longer than standard wheelbase helps the rider to negotiate irregularities in desert terrain. Consequently, this BN-Supply swinging arm has been lengthened by some 3.5 in. The leading link front suspension, also a BN-Supply innovation, is capable of as much as 7.5 in. of travel.

For any form of competition in which speed is the prime purpose, efficient brakes are equally as important as engine tune. The brakes fitted to the

CYCLE WORLD test machine, are far from adequate for the purpose intended. They are standard Hodaka brakes. At no time could the front wheel be locked. Even standing still, pushing against the brake, the wheel wouldn't lock. Completely contrary to the front brake, the rear brake must be used with extreme caution or the wheel locks easily.

Special heavy duty spokes are used in front and rear wheels to lace the brake hubs to aluminum alloy rims. Desert terrain requires that heavy duty spokes be used to maintain round wheels.

Riding position is comfortable for long sessions of desert riding. The standard Hodaka seat is large and well padded. All control levers and foot pedals are conveniently placed within easy reach of hands and feet. Gear changing is light and positive. A short, gentle push on the left side lever, and the next gear is engaged with the least amount of fuss and lost time.

For any other activity than desert racing, or possibly TT racing, this Hodaka is too specialized. The road facing type power band of the engine is responsible for this limitation. Contrary to BN Supply's claim, engine power is restricted to a very narrow rpm range at the top end, which necessitates the constant use of the five-speed gearbox. The bike burbles along until the engine suddenly churns into life; the inexperienced rider then has no alternative but to hang on until the engine chokes itself on top end rpm. If the next gear is not engaged quickly, the same process starts again. The engine also must be screamed when gearing down into a corner, to insure that power is available to control a rapid exit. Otherwise, the engine stutters, hesitates for a few yards, then comes on strong as the power band is reached. The rear wheel then thrashes and a most embarrassing predicament may ensue.

For desert racing, the handling characteristics of the BN Supply Hodaka front end are ideal. Again, experience must be gained to extract the ultimate performance from this unorthodox front end geometry. As the front brake is applied, the suspension lifts to its maximum extension. Upon hitting a bump with the suspension in this position, the front end is easily lifted over the majority of irregularities encountered on desert terrain. Unless the rider is experienced in the art of both suspension and throttle control, an untimely combination of engine power and suspension rebound can send the front wheel soaring beyond the point of no return.

The price, new, of the Hodaka Ace 100, is \$425. BN Supply's complete conversion kit is another \$418. This brings the total expense to well over \$800. The BN-Supply machine is truly a very competitive article for the purpose intended. But if the prospective customer is not a dedicated 100-cc class desert racer with no intentions of week-end escapes to the trail world, he may find a less expensive, not so specialized machine much more practical. □

