CIH heads -Summary-

Posted by Erich on November 18, 2004, 0:44:06
85.72.179.61

Hi all together,

hopefully I can clear up the mystery about CIH Cylinder Heads.

8-Valve Heads

The original CIH iron cast cyl. Head, designed for various displacements from 1500ccm to 2000ccm

The Experimental Crossflow cyl. head for the new designed Opel GT with
+++ Inlet ports offside/ exhaust nearside. +++
+++ Newer produced in number of pieces +++

The Race Crossflow aluminium cyl. head, designed for 4cyl-1900/2000ccm and 6cyl-2800/3000ccm engine to run in FIA Group 2 Touring/Rally cars. Minimum of 100 heads for homologation in FIA Group 2 Touring/Rally cars done. Overhead camshaft with needle bearing rockers. Second edition of 4cyl. Head with additional two studs for timing gear housing and bigger ports and valves.
+++ Inlet ports nearside/ exhaust offside +++

The Â"SchwedenkopfÂ" CIH called Swedenhead because of development / introduction by the swedish Opel rally team. There were dissatisfied with the power/torque of the CIH and the unreliability of the crossflow engine. They designed there own CIH head with higher and bigger inlet ports. Special inlet manifold required.

The official Opel Sport CIH Cyl. head, copy of the Â"SchwedenkopfÂ", be brought in Ascona 2000, Manta 200, Kadett C Group 1, available in Opel Sport parts Catalogue. Cyl. head, Inlet manifolds, Camshaft, used by Opel, Irmscher, Mantzel, Kissling, Mattig Â….

The 2.2/2.4L CIH cyl. heads, Opel used the higher and bigger inlet ports for the redesigned 2.,2/2.4L CIH engines. Various units with lead-free valve seats.

The Bauer Motorsport CIH-OHC Cyl. head with overhead camshaft, belt driven and tappet valve train. Using BMW F2 engine parts.Designed for special Group H cars who must use the original engine block but with Â"freestyleÂ" cyl. head. Only a few heads used in Motorsport

The Opel CIH Crossflow Â"New GenerationÂ", I guess this cyl. head was designed for the Omega A 2.4L and the Export models. It look like the Ford Sierra 2.0L-DOHC.
+++ Newer produced in number of pieces +++

16-Valve Heads

The OPEL 2Liter-16Valve CIH engine was designed in 1972 by Opel Development Department in cooperation with Steinmetz for use in the Ascona A for Group 4 and the Formula 2 for 1973. The first F2 engine study promised 317HP from the 2Liter-16Valve engine. More then every BMW, COSWORTH or TECNO F2 engine ever reached at this time. Unfortunately the first test in a F2 Car ends with a crash where the driver died and the homologation of the ASCONA A with the 16Valve engine

was delayed by insolvency of Steinmetz and at least canceld.
+++ Newer produced in number of pieces +++

The KAIMAN Formula 2 2Liter-16Valve CIH engine was designed in parallel to the OPEL Works F2 engine. The head design was complete different from the works engine and was developed from the famous engineer Â"Ludwig ApfelbeckÂ" for Â"KaimanÂ" in Austria. The engine was ran in a Â"March F2Â" from Â"Dieter QuesterÂ" an should reach 280HP.
+++ Newer produced in number of pieces +++

The OPEL 2Liter-16Valve CIH engine for the Kadett C Group 4 was the same engine which was original designed for the Ascona A. They started whit an engine in rally spec with 225HP. The build up 100 complete cyl. heads for homologation. In parallel to the Rally program in 1976 Opel tried also to ran two Kadett C GT/E in the German Touring Car championship Â"DRMÂ" with Â"Walter RÃ¶hrlÂ" and Â"Manfred TrintÂ". The achieved nearly 270HP at 10000RPM. They retired in rally car championship and also in touring car championship with a lot of problems. At the end of the season 1976 the responsible chief Â" Helmut BeinÂ" had to resign.
The 2Liter-16Valve engine project was put on ice.

The ASCONA 400 engine project was started in 1978 in collaboration with Â"COSWORTHÂ". Opel delivered there 2 Liter-16V parts to Cosworth and they started to redesign the Cyl. head and the rest of the engine. ItÂ's no a accident that the 400 cyl. head has only 20 degree valve angle, needle bearing camshafts, ultra light tappets and Â….
This was already designed in 1972. Cosworth revised the pistons, conrods, engine block and made the engine reliable and more rally like. The displacement was now 2400ccm. They started with 240HP
Phase 1: 240HP
Phase 2: 261HP
Phase 3: 280HP
Phase 4: 300HP
and today you can achieve nearly 345HP from a 2.5L-16V A400 engine.

The IRMSCHER 16Valve CIH cyl.heads. Irmscher started in 1978 to design his own 16V CIH engines. The first engine was a 2.0-16V CIH which had a timing chain like normal CIH and hydraulic tappets. The head was complete different from the A400 and was not developed for race applications. The first engine was installed in a MANTA B-CC which is shown in the Irmscher catalog.
The next step was the changing from timing chain to timing belt. This was the second edition of cyl. heads. This includes of course a different timing gear housing.
At least they produced a small series of 2.4L-16V engines based on the 2Liter Belt driven engines. Two of this engines where installed in IRMSCHER Omega A cars.

The 3.0L-24V cylinder head. Some time ago a german engine mechanic and race driver had the idea to cut two cyl. from the 6 cyl. head to get an alternative solution for the A400 cyl. head, especially for 2000ccm engines
---

This should be enough for the moment.

I'm pleased if somebody has additional info to complete my collection of OPEL in Motorsport

Best regards
Erich