

## Group 3E RECOGNITION DOCUMENT

A) Vehicle seen from 3/4 front



B) Vehicle seen from 3/4 rear



### 1. GENERAL

101. Manufacturer

**HOLDEN**

102. Commercial name(s) - Model and type

**ASTRA CDTi AH**

103. Engine capacity

**1909.6** cm<sup>3</sup> Corrected engine capacity **1909.6 x 1.5 = 2864.4** cm<sup>3</sup>

104. Type of car construction

a) Type

<input type="checkbox"/> separate chassis	<input checked="" type="checkbox"/> <b>monocoque</b>
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b) Material of chassis / bodyshell

**STEEL**

106. Number of seats

**5**

### 2. DIMENSIONS, WEIGHT

Minimum Racing Weight

**1376** kg

202. Overall length

**4249** mm ± 1 %

203. Maximum overall width

**1755** mm ± 1 % Where measured **AT THE DOOR TRIM**

204. Width of bodywork

a) At front axle **1745** mm ± 1 %

b) At rear axle **1715** mm ± 1 %

206. Wheelbase **2614** mm ± 1%

207. Maximum track

a) Front **1484** mm

b) Rear **1484** mm

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**3. ENGINE** (In case of rotary engine, see Art. 335 on additional form)

301. Location and position of the engine **FRONT, TRANSVERSAL**

302. Number of mounts **4**

Engine in its compartment



304. Supercharging

yes  no

Maximum manifold pressure

\_\_\_\_\_

Type and number of compressors

**SINGLE TURBOCHARGER**

305. Number and layout of cylinders

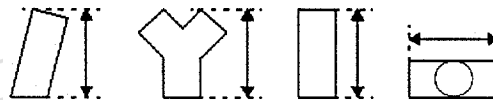
**4 IN-LINE**

312. Cylinder block material

**CAST IRON**

310. Maximum compression ratio

**17.52 : 1**



313. Sleeves

a)  yes  no

b) Material **N/A**

c)  wet  dry

314. Bore

**82.0** +0/- 0.1 mm

316. Stroke

**90.4** +0/- 0.1 mm

321. Cylinderhead

a) Number **1**

b) Material

**ALUMINIUM ALLOY**

324. Fuel feed by injection : a) Make **BOSCH DIRECT DIESEL INJECTION**

b) Model **COMMON RAIL**

f) Position of Injectors:

f1)  Manifold  Cylinderhead

325. Camshaft a) Number

**2**

b) Location

**CYLINDER HEAD**

c) Drive system

**TOOTHED BELT**

f) Type of valve operation

**INDIRECT ROLLER FINGER FOLLOWER**

327. Intake

a) Material of manifold

**ALUMINIUM ALLOY**

b) Number of manifold elements

**1**

c) Number of valves per cylinder

**2**

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**328. Exhaust**

- a) Material of manifold **CAST IRON**
- b) Number of manifold elements **1** d) Number of valves per cylinder **2**
- p) External Diameter of exhaust pipe between manifold and first silencer **55** mm ± 5%

**330. Ignition system**

- a) Type **N/A** b) Number of plugs per cylinder **N/A**
- c) Number of distributors **N/A** d) Number of coils **N/A**

**331. Cooling system**Capacity **7** L**332. Cooling fan**

- a) Number **2** b) Diameter of the fan **315 / 315** mm
- c) Material of the fan **POLYETHYLENE** d) Number of blades **10 / 7**
- e) Type of drive **ELECTRICAL** f) Automatic cut in 

<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
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**333. Lubrication system**

- a) Type **WET SUMP** b) Number of oil pumps **1**
- c) Total capacity **5** L
- e) Location of the cooler(s) **ENGINE, LEFT SIDE** f) Type of the cooler(s) **HEAT EXCHANGER**

**4. FUEL CIRCUIT****401. Fuel tank**

- b) Location **UNDER RESR SEAT PAN**
- d) Total capacity **52** L

**402. Fuel pump(s)**

- a) 

<input checked="" type="checkbox"/> Electrical	<input type="checkbox"/> Mechanical
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 b) Number **1**
- d) Location **IN TANK** e) Fuel Pressure \_\_\_\_\_

**5. ELECTRICAL EQUIPMENT****502. Alternator**

- a) Number **1** b) Type **ALTERNATOR**
- c) Drive system **RIBBED V-BELT** d) Nominal power **1420** Watts

**503. Retractable headlights**

- a) 

<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
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 b) Control system **N/A**

**6. POWER TRAIN****601. Driven wheels**

- front 

<input type="checkbox"/> yes	<input type="checkbox"/> no
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 rear 

<input type="checkbox"/> yes	<input type="checkbox"/> no
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**602. Clutch**

- a) Type **DRY**
- b) Control system **HYDRAULIC**

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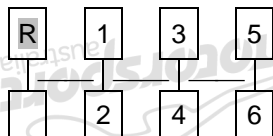
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**603. Gearbox**

- a) Location **ENGINE BAY**    b) Make **GMPT**
- c) Type and location of control **MANUAL, ON FLOOR**
- e) Ratios

	Number of teeth	Ratio	Constant Mesh	Synchro
1	_____	<b>3.818:1</b>	_____	_____
2	_____	<b>2.053:1</b>	_____	_____
3	_____	<b>1.302:1</b>	_____	_____
4	_____	<b>0.959:1</b>	_____	_____
5	_____	<b>0.744:1</b>	_____	_____
6	_____	<b>0.614:1</b>	_____	_____
R	_____	<b>3.545:1</b>	_____	_____
Constant	_____	_____	_____	_____

f) Gear change gate



**604. Transfer box / Centre differential**

- a) Ratios **N/A**
- c) Control system of transfer box **N/A**
- d) Type of central differential **N/A**

**605. Final drive**

a) Type of final drive

b) Ratio

f) Oil Cooler

g) Cooler Type

	Front	Rear
a) Type of final drive	<b>SPUR GEAR</b>	<b>N/A</b>
b) Ratio	<b>3.65:1</b>	<b>N/A</b>
f) Oil Cooler	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no
g) Cooler Type	<b>N/A</b>	<b>N/A</b>

**606. Shafts**

- a) Type of longitudinal shafts **N/A**
- b) Material of longitudinal shafts **N/A**
- c) Type of transversal half-shafts **CV – SLIP JOINT**
- d) Material of transversal half-shafts **STEEL**

**7. SUSPENSION**

**701. General**

Front	Rear

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	<u>MCPHERSON STRUT</u>		<u>TWIST BEAM AXLE</u>	
a) Type of suspension				
<b>702. Helical springs</b>	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	<input type="checkbox"/> yes	<input type="checkbox"/> no
a) Material	<u>STEEL</u>		<u>STEEL</u>	
<b>703. Leaf springs</b>	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
a) Material	<u>N/A</u>		<u>N/A</u>	
<b>704. Torsion bars</b>	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
a) Material	<u>N/A</u>		<u>N/A</u>	

**705. Other type of suspension***See description on additional form***706. Stabiliser**

Front

Rear

b) Effective diameter

21 mmN/A mm

c) Material

STEELN/A**707. Suspension Dampers**

Front

Rear

a) Number per wheel

11

b) Type

TELESCOPICTELESCOPIC

c) Principle of operation

GAS/HYDRAULIC/ELECTRONICGAS/HYDRAULIC/ELECTRONIC**8. WHEELS****801. Wheels**

Front

Rear

a) Diameter

16"16"

b) Width

6.5"6.5"

c) Offset

+37 mm+37 mm**803. Brakes**

a) Braking system

DUAL CIRCUIT, HYDRAULIC, ABS ,ESP

b) Number of master cylinders

1

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c) Servo-brakes

yes  no

c1) Make and type

LUCAS VACUUM

	Front	Rear
e) Number of cylinders per wheel	<u>1</u>	<u>1</u>
f) <b>Drum brakes</b>	<u>N/A</u>	<u>N/A</u>
f1) Internal diameter	<u>N/A</u>	<u>N/A</u>
f2) Number of linings per wheel	<u>2</u>	<u>2</u>
g) <b>Disc brakes</b>	<u>1</u>	<u>1</u>
g1) Number of pads per wheel	<u>2</u>	<u>2</u>
g2) Number of calipers per wheel	<u>1</u>	<u>1</u>
g3) Caliper material	<u>CAST IRON</u>	<u>CAST IRON</u>
g4) Thickness of new disc	<u>25 ± 1 mm</u>	<u>10 ± 1 mm</u>
g5) External diameter of the disc	<u>308 ± 1.5 mm</u>	<u>264 ± 1.5 mm</u>
g9) Ventilated discs	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no

h) Parking brake: h1) Control system CABLE

h2) Location of lever FLOOR, BETWEEN FRONT SEATS

h3) On which wheels

Front  Rear

**804. Steering**

a) Type

Front		Rear	
<u>RACK &amp; PINION</u>		<u>N/A</u>	
<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	<input type="checkbox"/> yes	<input checked="" type="checkbox"/> no
<u>ELECTRO HYDRAULIC</u>		<u>N/A</u>	

b) Servo-assistance

Type of Assistance

**9. BODYWORK**

**901. Interior**

a) Ventilation

yes  no

c) Air Conditioning

yes  no

b) Heating

yes  no

f) Optional sun roof

yes  no

f1) Type

N/A

f2) Control system

N/A

g) Opening system for side windows

Front	Rear
<u>ELECTRIC</u>	<u>ELECTRIC</u>

X) Dashboard

Y) Sunroof

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**902. Exterior**

a) Number of doors **4**

b) Tailgate

<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
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Front	Rear
<b><u>STEEL</u></b>	<b><u>STEEL</u></b>

c) Door material

d) Front bonnet material

**STEEL**

e) Rear bootlid / tailgate material

**STEEL**

f) Bodywork material

**STEEL**

h) Rear window material

**GLASS**

i) Rear quarter window material

**GLASS**

k) Side window material

Front	Rear
<b><u>GLASS</u></b>	<b><u>GLASS</u></b>
<b><u>POLYURETHAN</u></b>	<b><u>POLYURETHAN</u></b>

l) Material of bumper

n) Exterior Rear wiper

<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no
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**XIII) NON METALLIC PARTS OF THE BODY**

Number	Part	Material

Drawing / photo required





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**COMPLEMENTARY INFORMATION**

