

U.S. Patent No. 5,655,365 – Orbital’s Construc

Term No.	Proposed Term or Phrase	Construction	Support ¹
1	Fuelling rate (1, 2)	mass of fuel per cylinder per cycle.	<p><u>‘365 Patent Specification</u></p> <ul style="list-style-type: none"> • Abstract • Col. 2:3-6 • Col. 2:6-10 • Col. 3:10-12 • Col. 3:48-52 • Col. 4:6-11 • Col. 5:50-57 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p>
2	the timing of the introduction of fuel into the at least one cylinder being maintained at before top dead centre (BTDC) (1)	Start of injection for at least one cylinder is before top-dead-center.	<p><u>‘365 Patent Specification</u></p> <ul style="list-style-type: none"> • Fig. 1 and Fig. 2 • Col. 2: 9-10, 12-14, 59-63 • Col. 3: 1-3, 5-8 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p>

¹ References to figures include the corresponding description in the specification, and references to the specification include the figure reference.

3	up to about 30° ATDC (5)	within a window from 0 to 30 degrees after top dead center.	<p><u>'365 Patent Specification</u></p> <ul style="list-style-type: none"> • Claim 6 • Fig. 2 • Col. 1:65 – Col.2:3 • Col. 3:1-9 • Col. 3:41-44 <p><u>Extrinsic Evidence</u></p> <p>Expert testimony may be provided regarding the meaning of this claim term in the context of the order of the priority date of this patent.</p>
4	fuel is introduced at between 60° to 80° BTDC. (9)	the start of injection occurs in the window between 80 to 60 degrees before top dead center.	<p><u>'365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 2: 9-12 • Figs. 1-2 • Col. 3:1-9 <p><u>Extrinsic Evidence</u></p> <p>Expert testimony may be provided regarding the meaning of this claim term in the context of the order of the priority date of this patent.</p>

5	catalytic treatment means (10, 12)	<p><u>Structure:</u> a device that contains a catalyst and treats the exhaust gases from the engine to decrease the undesirable contaminants therein.</p> <p><u>Function:</u> contains a catalyst and treats the exhaust gases from the engine to decrease the undesirable contaminants therein</p>	<p><u>'365 Patent Specification</u></p> <ul style="list-style-type: none"> • Fig. 3 • Col.1: 4-9; 10-15 • Col 2: 15-17, 23-25 • Col 3: 13-16, 52-59 • Col 4: 56-61 • Col 5: 13-18 • Col 6: 1-3 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p> <p>Heywood, J.B., Internal Combustion Engine Fundamentals, McGraw-Hill, 1988, at 649-657.</p>
6	a level higher than that required when the engine is operating normally (1)	a value greater than that demanded when the catalytic converter is above its light-off temperature and ignition timing is before top-dead-center.	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Fig. 1 • Abstract • Col. 1: 11-15; 19-21; 61-64 • Col. 5: 24-29; 41-46 <p><u>EP365- 94904919 File History</u> Letter to European Patent Office Boards of Appeal, 1998, Page 3</p> <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p>

7	maximum load (2)	Engine peak torque output.	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 2: 3-6 • Col. 3: 10-12 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p> <p>Heywood, J.B., Internal Combustion Engine Fundamentals, John Wiley & Sons, Hill, 1988, at 46, 824-27, 873, and 883.</p>
8	additional air is introduced upstream (12)	supplemental air is added into the exhaust system before the inlet	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 2: 22-23 • Col. 4: 1-6 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p>
9	required operating temperature (14)	light off temperature, taken as the temperature at which the catalyst is 50% efficient.	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 1:11-17; 19-21 • Col. 5:15-18 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding the meaning of this claim term in the context of the ordinary meaning of the term at the priority date of this patent.</p>

10	sensed or determined (14)	measured or identified	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 2: 28-29 • Col. 5: 8-12, 41-46 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding t of this claim term in the context of the ordi the priority date of this patent.</p>
11	predetermined operating condition (18)	temperature of the catalytic treatment means is determined to be above the light-off temperature of the catalytic material.	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Col. 4: 62-67 • Col. 5: 1-5; 24 -29 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding t of this claim term in the context of the ordi the priority date of this patent.</p>
12	normal operation (18)	functioning as when the catalytic convertor is above its light-off temperature and ignition timing is before top-dead-center	<p><u>365 Patent Specification</u></p> <ul style="list-style-type: none"> • Fig. 1 • Abstract • Col. 1: 11-15 • Col. 1: 19-21 • Col. 1: 61-64 • Col. 5: 24-29; 41-46 <p><u>Extrinsic Evidence</u> Expert testimony may be provided regarding t of this claim term in the context of the ordi the priority date of this patent.</p>

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