09/979643 JC13 Rec'd PCT/PTO 26 NOV 2001

Director of the U.S. Patent RECORDA **IMENT OF COMMERCE** 01-11-2002 and Trademark Office 'atent and Trademark Office **Box Assignments** Washington, D.C. 20231 101941196 Jocket No. 111173 To the Director of the U.S. Patent and Trademark Office: Please record the attached original document or copy thereof. Name of conveying parties: Name and address of receiving party: 1) Koichiro NAKATANI TOYOTA JIDOSHA KABUSHIKI KAISHA 2) Shinya HIROTA 1, TOYOTA-CHO 3) Kazuhiro ITOH TOYOTA-SHI, AICHI-KEN, 471-8571 4) Takamitsu ASANUMA **JAPAN** 5) Koichi KIMURA 6) Kiyoshi NAKANISHI 7) Toshiaki TANAKA Additional name(s) of conveying party(ies) attached? ☐ Yes ⊠ No Nature of conveyance: Additional name(s) & address(es) attached? ☐Yes ⊠ No \boxtimes Assignment Merger Security Agreement ☐ Change of Name Other ____ Execution Date: 1, 2, 4, 5) November 5, 2001; 3, 6, 7) November 7, 2001 If this document is being filed together with a new application, the execution date of the application is: 1, 2, 5) November 5, 2001; 3, 4, 6, 7) November 7, 2001 Patent No.(s) Patent Application No.(s) Total number of applications and patents involved: $\underline{1}$ Name and address of party to whom correspondence concerning document should be mailed: Total fee (37 CFR 3.41).....\$ 40.00 7. Α. Name: James A. Oliff Enclosed (Check No. 125246) Credit any overpayment or charge any underpayment to OLIFF & BERRIDGE, PLC Address: deposit account number 15-0461. P.O. Box 19928 Alexandria, VA 22320 1.29/2001 MNGUYEN | 00000112 099/3643 To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of Statement and signature. the original document Date: November 26, 2001 James A. Oliff, Registration No. 27,075 Thomas J. Pardini, Registration No. 30,411 Total number of pages including cover sheet, attachments, and document: 2

> PATENT REEL: 012436 FRAME: 0667

U.S. ASSIGNMENT

IN CONSIDERATION of the sum of One Dollar (\$1.00), and of other good and valuable consideration paid to the undersigned inventor(s) (hereinafter "ASSIGNOR") by

(Insert	TOYOTA JIDOSHA KABUSHIKI KAISHA		
ASSIGNEE's Name(s) Address(es))	1, Toyota-cho, Toyota-s	shi, Aichi-ken, 471-8	571 Japan
(Title of Invention)	(hereinafter "ASSIGNEE"), the receipt of transfers to ASSIGNEE the entire and exEXHAUST GAS PURIFICATION	clusive right, title and interest to the	e undersigned ASSIGNOR hereby sells, assigns and ne invention entitled
,			
	relating to International Patent Application of the United States was executed on ever	n date herewith or, if not so execute	and/or for which application for Letters Patent ed, was:
(Insert date of execution	November 5, 200 (a) executed on November 7, 200	1; (
of application, if not concurrent)	(b) filed on November 26, 2001 Serial No. /	, data, when known.	reby authorized to insert in (b) the specified
	and to said application and all Letters Patent(s) of the United States granted on said application and any continuation, division, renewal, substitute, reissue or reexamination application based thereon, for the full term or terms for which the said Letters Patent(s) may be granted and including any extensions thereof (collectively, hereinafter, "said application(s) and Letters Patent(s)").		
	The ASSIGNOR agree(s), when requested by said ASSIGNEE and without charge to but at the expense of said ASSIGNEE, to do all acts which the ASSIGNEE may deem necessary, desirable or expedient, for securing, maintaining and enforcing protection for said invention, including in the preparation and prosecution of said application(s) and the issuance of said Letters Patent(s), in any interference, reissue, reexamination, or public use proceeding, and in any litigation or other legal proceeding which may arise or be declared in relation to same, such acts to include but not be limited to executing all papers, including separate assignments and declarations, taking all rightful oaths, providing sworn testimony, and obtaining and producing evidence.		
	IN WITNESS WHEREOF, the	undersigned inventor(s) has (have) affixed his/her/their signature(s).
(Signatures)	1) Koichiro hakatani (SIGNATURE)	Koichiro Nakatani	november 5, 2001
	3) Shiriya Hirota (SIGNATURE) 3) Calayulina Itak	Shinya Hirota (TYPE NAME)	Novembel 5 200/
	3) dazulira Itali (SIGNATURE)	Kazuhiro Itoh	Movember 7.2001
	Jakamitau asanuma (SIGNATURE)	Takamitsu Asanuma	november 5, 2001
	5 Noichi Kimura		november 5, 200/
	5) Joshiaki Janaka	Kiyoshi Nakanishi	LONGMARY 7, 200/
	7 Joshiaki Janaka (SIGNATURE)	Toshiaki Tanaka (TYPE NAME)	November 7.200/
	8)(SIGNATURE)	(TYPE NAME)	(DATE)

RECORDED: 11/26/2001

PATENT REEL: 012436 FRAME: 0668