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Let $A = M_n(F)$ be a full $n \times n$ matrix algebra over an algebraically closed field F . Given a group G , there are two basic ways to define a G -grading on A , elementary and fine. A G -grading on A is fine if and only if the support of the grading $H = \{g \in G \mid A_g \neq 0\}$ is a subgroup of G and A is isomorphic to the twisted group algebra $F^c H$ for an appropriate two-cocycle $c \in Z^2(H, F^\times)$. We refer to such group H as a group of central type. Given a fine grading on A supported by a group of central type H , let $F\langle x_{i,g} \mid g \in H, i = 1, 2, \dots \rangle$ be an associative H -graded free algebra, and T_H be the T -ideal of H -graded polynomial identities of A . Unlike the classical (non-graded) case the relatively free algebra $F\langle x_{i,g} \rangle / T_H$ may or may not be a domain. It is a domain exactly when H is on a precise list of families of nilpotent groups, called Λ . We describe generating set for T_H where H is any group of central type, and the minimal generating sets for groups on the list Λ . (Received February 09, 2009)