$(\not{EB})^{-1} A$

Qs 1) How to view $Sym(T_0^2(M))$ as a manifold?

What is the vector bundle?
and what is in what sense
is it a section?

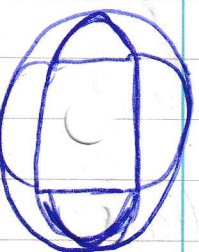Is g_t a function from $T_tM \times T_tM$?

for each t

$g_t: T_tM \times T_tM$

Thanks for
organizing

why does this domain follow from g_t being a
C^{n-1} section of $Sym(T_0^2(M))$?

How is Lambda a Riemann metric?

Should $S(M)$ be $= \{ X \in T_t(M) : g_t(X,X) = 1$
same $t \in M \}$?

and why is this important?

Why are the sphere bundle & orthonormal
frame bundle fiber bundles?
geodesics exist - by taking limits